The Dissertation Committee for Davika Deon Reid Certifies that this is the approved version of the following Dissertation:

NURSE-MIDWIFE PROVIDED POSTNATAL NEWBORN CARE RECOMMENDATIONS IN ELDORET, KENYA: A RAPID FOCUSED ETHNOGRAPHIC ASSESSMENT

Committee:

Alexandra A. García, Supervisor

Dinah Chelagat

Lauren E. Gulbas

Timothy I. Mercer

Lorraine O. Walker

Julie A. Zuniga

NURSE-MIDWIFE PROVIDED POSTNATAL NEWBORN CARE RECOMMENDATIONS IN ELDORET, KENYA: A RAPID FOCUSED ETHNOGRAPHIC ASSESSMENT

by

Davika Deon Reid

Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

August 2019

Dedication

To the small, sick, premature, and term babies that I have had the honor and privilege to care for, for the past 15 years. Thank you for showing me how to be incredibly strong, yet humble and fragile at the exact same time.

To the nurses-midwives who let a stranger come onto their ward and into their lives. You welcomed her, you fed her, you laughed with her, and you made her "one of us." I am in awe of your work and the passion with which you serve every mother and baby in your care.

To my parents who gave up a very comfortable life in Jamaica to become immigrants in a foreign land and give their children unimaginable opportunities. Then letting me move to another foreign country sight unseen and trusting that I would make the right decisions. To my sisters for always supporting me whether we got along or not.

To all, for the prayers, love, and encouragement through the ups and downs and always.

Acknowledgements

I would like to thank the chair of my dissertation committee, Dr. Alexandra Garcia. She has walked this journey with me every step of the way, starting before my Master's program when, unaffiliated with the university, I made an appointment to speak with her when contemplating pursuing graduate education. She met with me, a stranger, and offered me her time, her guidance, her books, and her encouragement for any path that I chose. She has also been my loudest and most supportive cheerleader, and unfamthomly understanding and patient when I wanted to be stubborn and especially when I wanted to turn in less than ideal work. That is just the beginning. There is more, so much more. Thank you Dr. Garcia.

To my other committee members, Dean Chelagat, Dr. Gulbas, Dr. Mercer, Dr. Walker, and Dr. Zuniga, who were all invaluable in their own way and without whom I could not have conducted the caliber of the study that I did. They each challenged me to think, think, and think some more. And when I thought, and thought, and thought some more, but ended up in the many rabbit holes that I did, they were patient, allowing me to be there just long enough to ensure I learned and grew before helping me back on the right path again. I am truly grateful for their rigor and dedication to my success as a researcher.

To the University of Texas, to the School of Nursing, the Dean, and the entire faculty and staff. To Dr. Janet Morrison, my mentor and another loud cheerleader, who trusted me with her study and participants; from whom I learned to apply my research skills, and also to function as a real researcher with the highs and lows that that entails. To Mayra in the Skills Lab who was my free therapist, to Drs. Goldstein and Gaskamp who are so down to earth. Drs. Abbyad, Guillet, and Sumpter for always checking in. To

Tracy Demchuk who solved all my problems on the spot. To Dr. West-Oheuri who was a mentor and friend.

To the Robert Wood Johnson Foundation, particularly the staff of the Future of Nursing Scholars and my colleagues in Cohort Three.

To my extended family, my grandparents, aunts, uncles, cousins and their families. I love how big we are, and I love how we all come together no matter what.

To my friends who I've shared in this experience with at UT. Of course, to Carolyn, Lisa, Ya-Ching, Whitney, LaTashia, Kimberly, Maegan, Jieun, Matthew, and Eunju. To my fellow leaders at the Epsilon Theta Chapter of Sigma Theta Tau.

To my friends at church: Michele, Kijana, Bianca, Allison, Bobbie, Cece, Joline, Amy...too many to name but you know who you are. There are no words to thank you for the endless prayers, support, and encouragement. Rides to the airport and flowers. Still loving me and including me even though you haven't seen me in five years. Thank you. To my Master's in Public Health Nursing colleagues: Luisa, Christine, Mary, Bibi, and Rahmatu.

To all the nurses, doctors, and other colleagues that I have ever worked with. You have made me the nurse and researcher that I am. To my work colleagues, without whose understanding I could never have accomplished this goal. Each and every one of you has contributed to improving the lives of newborns all over the world, whether you know it or not. To Denise, Allison, and Jennifer, who covered my shifts while I was in Kenya and Jeannie, my surrogate mom. To Karen, my surrogate sister. To Ingrid who worked with me to be flexible so this could happen. To Adriana who watched my dogs so lovingly while I was away.

To Jody and the Texas Association of Charitable Clinics, and the staff and board of the Volunteer Healthcare clinic who have taught me so much about serving my community in so many capacities.

To the staff at Indiana House in Eldoret, Kenya who took such good care of me while I was away from home.

To my doggies, sweet little Jack and feisty little Rosalie. Who truly rescued who?

I thank those who have supported me, but I also thank those with whom, on the surface, we were not at our best. You have also contributed by challenging me to be kind, forgiving, humble, and reflective of my personal growth. I would not be the person I am today without you, too.

Finally, I thank God for the many opportunities I have had, which seems like an understatement. I believe that when you are blessed, you should take those blessings and pass them around to others. I will try my very best.

Abstract

Nurse-Midwife Provided Postnatal Newborn Care Recommendations in Eldoret, Kenya: A Rapid Focused Ethnographic Assessment

Davika Deon Reid, PhD

The University of Texas at Austin, 2019

Supervisor: Alexandra A. García

The purpose of this study was to describe the newborn care recommendations that nurse-midwives provide to mothers and other caretakers before discharge in Western Kenya, and explore the factors that may influence the content and provision of the care recommendations. This rapid, focused, ethnographic assessment was guided by Leininger's culture care theory as an orienting framework. The study was conducted on the postnatal ward at a publicly-funded, tertiary-level referral hospital and university-level nursing school from November to December 2018. Data were collected via participant observation; 24 semi-structured interviews in English, with purposive sampling of nursing and medical staff, hospital administrators, and maternal-child nursing faculty directly involved in newborn care; collection of relevant documents; and researcher-generated fieldnotes. Data were analyzed using qualitative thematic analysis to identify key themes. The study found that nurse-midwives counseled on exclusive breastfeeding for six months, umbilical cord care, follow-up examinations and

immunizations, and select danger signs and care-seeking. Most recommendations were provided orally, however some were written in English with some use of medical terminology by the nurse-midwife or medical personnel before being reviewed with the caretakers by the nurse-midwives. The content and provision of recommendations were influenced by six themes: *prioritization of maternal health, the baby is not sick, ward congestion, staff shortage, heavy workload,* and *other approved providers.* The findings support evidence that broad national- and ward-level policies influenced the staff of the postnatal ward to focus on maternal and sick newborn health while also managing ward congestion, staff shortages, and heavy workloads. To address neonatal mortality in the community via comprehensive provision of evidence-based guidelines, the content and consistency regarding the recommendations that are provided prior to discharge should be improved. Study findings can be used to inform policy changes to address clinical, administrative, educational, and regulatory interventions such as appropriate postnatal staffing ratios and newborn practice competency to improve the quality of nursing care for well-newborns. This study reveals issues to be explored in larger studies of nurse-midwives' roles and the sociocultural and economic influences that affect provision of well-newborn care recommendations.

Table of Contents

List of Tables

List of Figures

List of Common Abbreviations and Acronyms

ANC	Antenatal care
C-Section	Caesarian Section
CCT	Culture care theory
KDHS	Kenya Demographic and Health Survey
KSh	Kenyan shillings
KNBS	Kenya National Bureau of Statistics
MCH	Maternal-child health
MOH	Ministry of Health
MTRH	Moi Teaching and Referral Hospital
MUSoN	Moi University School of Nursing
NBU	Newborn Unit
NCK	Nursing Council of Kenya
PNC	Postnatal care
PNW	Postnatal ward
RMBHK	Riley Mother Baby Hospital of Kenya
RTC	Return to clinic
SVD	Standard vertex delivery
U.S.	United States
USD	United States dollar
WHO	World Health Organization

Chapter One: Introduction and Background

Decades of targeted interventions to address overall child health outcomes have resulted in appreciable declines in global rates of mortality for children under five years of age and infants. However, a similar decline in neonatal mortality has yet to be realized (United Nations Inter-Agency Group for Child Mortality Estimation [UNIGCME], 2018). In 2000, the United Nations established the Millennium Development Goals (MDGs) with goal #4 to reduce overall childhood mortality (neonatal, infant, and children under five-years of age) by two-thirds between 1990 to 2015. Although a two-thirds reduction in mortality for children under five and infants was achieved during the 25-year monitoring period, rates of mortality for neonates in their first full 28 days of life (World Health Organization [WHO], 2006) only decreased by 19%, failing to decrease by the two-thirds margin necessary to meet the overall goal (Keats et al., 2017). The failure to achieve significant reductions in neonatal mortality highlight the continuing disparities in mortality between children under five, infants, and newborns (United Nations, 2015). Subsequently, the postnatal period, which encompasses the neonatal (newborn) period has been declared the most dangerous time of life (United Nations International Children's Emergency Fund [UNICEF], 2018).

Newborn survival is positively associated with maternal health, which relies on the mother receiving appropriate care, monitoring, and counseling on evidence-based recommendations to promote the health of the maternal-newborn dyad throughout the antenatal, intrapartum, and postnatal care-continuum (Bhutta, Lassi, Blanc, & Donnay,

2010). In low-resource settings where the majority of neonatal mortality occurs, recommendations for newborn care during the continuum are usually provided by formally- and informally-trained healthcare providers in both community and clinical settings (WHO, 2006). Although global coverage of antenatal and intra-partum indicators have improved since MDG tracking began, a 2016 MDG progress report found that among the 75 countries that failed to achieve improved newborn and maternal health, postnatal care indicator coverage was only 28% (Victoria et al., 2016). This was the lowest coverage of all the indicators measured during the antenatal-postnatal continuum. The MDG progress report provides evidence of the need to address gaps in postnatal care that may hamper progress in achieving continued decreases in neonatal mortality (Sacks & Langlois, 2016).

The Postnatal Period and Neonatal Mortality

The clinical postnatal period starts immediately after birth and continues through the first 42 days of life, or for six full weeks (WHO, 2010). It is further sub-classified into the *immediate postnatal period,* consisting of the first 24 hours of life; the *early postnatal period,* consisting of the first two to seven days of life; and the *late postnatal* period, consisting of the next eight to forty-two days of life (WHO, 2010).

Although there are a considerable number of newborn deaths during the immediate postnatal period, most occur during the early postnatal period when the newborn is outside of the formal healthcare setting (WHO, 2014). The most common causes of death are complications of prematurity, low-birthweight, and complications of

the intrapartum period such as asphyxia, respiratory distress, or infections (UNIGCME, 2018).

Healthcare Providers and Neonatal Mortality

Newborn death during the postnatal period is particularly frustrating because there are known low-cost health system and community-level interventions that can prevent or treat up to 80% of the most common causes of neonatal mortality (Griffin et al., 2017; UNICEF, 2018). These include primary, secondary, and tertiary interventions in the acute care, community, and home-settings. Because many deaths occur outside of healthcare facilities, it is critical that health care providers counsel mothers and caretakers of newborns regarding evidence-based home care recommendations to promote optimal health throughout the postnatal period, which includes timely care-seeking. Healthcare provider competency and ability to provide appropriate newborn assessment, monitoring, and referral to higher levels of care when necessary are key to newborn survival (Kerber et al., 2007; UNICEF, 2018).

Despite the importance of healthcare provider counseling on newborn care recommendations, there is evidence that provider knowledge and counseling regarding postnatal newborn care recommendations is irregular, particularly in sub-Saharan Africa where neonatal mortality remains high and where healthcare worker capacity is low (WHO, 2006). Additional studies have reported multiple systemic factors and barriers that may also impact the content of the care recommendations and how they are provided (Duysburgh et al., 2015; WHO, 2006).

Kenya is a low-to-middle income country in sub-Saharan Africa that failed to meet MDG goal #4 to reduce child mortality by two-thirds (Partnership for Maternal-Newborn and Child Health [PMNCH], 2011). As in similar countries, this was due to insufficient decreases in neonatal mortality (PMNCH, 2011). This study sought to describe the newborn home care recommendations that formally-trained healthcare providers, specifically, nurse-midwives, gave to mothers and caretakers prior to discharge from the postnatal ward. The study also explored factors that may have had an influence on the content and provision of the care recommendations. The study was a focused, rapid assessment ethnography that took place at a tertiary public referral hospital in Eldoret, Kenya.

BACKGROUND

Newborn Physiology

Clinically, the postnatal period is a time of multiple physiological transitions in the newborn (WHO, 2010). The most rapid changes occur during the first 24 hours after birth as newborns transition to extrauterine life. A successful transition includes the complex release of endocrine regulators, delicate changes in circulation, the initiation of spontaneous respirations with the subsequent absorption of fetal lung fluid, the secretion of surfactant to promote alveolar expansion, the metabolic regulation of temperature, and energy production and consumption (Hillman, Kallapur, & Jobe, 2012). During the first week of life, residual changes to newborn organ systems continue, weight loss occurs with diuresis and the delayed onset of maternal lactation, and complications associated

with jaundice may develop (WHO, 2013). Throughout the postnatal period, all newborns should be monitored closely for symptoms of infection, which may arise at any time from a variety of sources and which may progress rapidly before possible morbidity or mortality (WHO, 2013).

Postnatal Newborn Care Recommendations

Postnatal assessment and care of the newborn during the immediate postnatal period after delivery addresses the dynamic and changing physiological newborn needs and differs from assessment and care in the early and late postnatal periods (see Table 1; WHO, 2010). To ensure that healthcare providers across all settings had access to uniform evidence-based newborn care guidelines, in 1998 the WHO released *Postpartum Care of the Mother and Newborn: A Practical Guide,* which was intended for use by families, communities, formal and informal healthcare providers, health planners, and program managers at health centers and hospitals in developing countries. The recommendations included hygienic delivery of the newborn and cord care, thermal protection, prophylaxis to prevent eye infections, early and exclusive breastfeeding, resuscitation if needed, selected birth immunizations, recognition of newborn illness with appropriate care-seeking and treatment, and management of preterm or low-birth weight newborns (WHO, 1998). Countries were encouraged to adopt or adapt the recommendations when formulating their own country-specific newborn care guidelines (WHO, 1998).

Since 1998, other maternal-child or child health global organizations and collaborative partnerships such as the American College of Nurse Midwives (ACNM), the Partnership for Maternal, Newborn, and Child Health (PMNCH), Save the Children (STC), and the American Academy of Pediatrics (AAP), have also released newborn care recommendations to guide healthcare providers to appropriately care for newborns during the postnatal period. Many of the guidelines, or portions of the guidelines, have also been adopted or adapted by country-specific Ministries of Health and disseminated to healthcare providers around the world (Department of Health, 2012; Ministry of Public Health and Sanitation & Ministry of Medical Services [MPH & MMS], 2010).

The most recent update to the WHO guidelines was in 2013, with the release of the *WHO Recommendations on Postnatal Care of the Mother and Newborn*, which included recommendations on the number and timing of postnatal contacts (follow-up examinations and home visits), assessments of the baby, exclusive breastfeeding, cord care, and other practices such as thermal care, delayed bathing and appropriate wrapping, couplet care, communication and play, immunizations, and the identification and proper care of premature and low-birth weight babies (WHO, 2013).

Table 1

WHO Newborn Care Recommendations for the Immediate to Late Postnatal Periods

Postnatal period/Newborn care recommendation	Immediate postnatal period (birth to 24 hours of life)	Early postnatal period (24 hours to 7 days of life)	Late postnatal period (8 to 42 days of life)
Thermal care	X	X	X
Drying and wrapping	X		
Cut cord	X		
Skin-to-skin care	X	as needed	as needed
Apply hat	X	as needed	as needed
Dress appropriately	X	X	X
Assess for danger signs	X	X	X
Initiate breastfeeding	X		
Administer Vitamin K	X		
Administer eye infection prophylaxis	X		
Examine newborn	X	X	X
Recognize small newborn	X		
Administer birth vaccines	X		
Cord care	X	X	as needed
Bathing		X	
Follow-up care		X	X
Home visits		X	
Breastfeeding until 6 months of life		X	X
Communication and play		X	X
Administer other immunizations			X
Mother and baby should stay together	X	X	X

(WHO, 2010; WHO, 2013).

Researchers, policymakers, and healthcare providers working in sub-Saharan Africa should be conscious that definitions regarding the length of the postnatal period may vary between chronological medical definitions and traditional beliefs represented by physiological changes in the mother or newborn. For example, while the WHO defines the postnatal period as the time from birth to 42 days of life, in some communities, the detachment of the umbilical cord after seven to ten days of life may indicate the end of the newborn period (Mrisho et al., 2008; WHO, 1998). In addition, it

has also been documented that newborns should be seen for their first follow-up examination at six-weeks of life. This is usually timed with the newborn immunization schedule and follow-up examination of the mother, when clinically, her uterus has returned to a pre-pregnancy state (Sibanda, Saungweme, Nleya, Mutyambizi, & Rutgers, 2001).

Healthcare Provider Knowledge and Counseling on Recommendations

Care of the newborn during the postnatal period should be provided by a healthcare provider qualified in midwifery (WHO, 2014). In formal healthcare systems in sub-Saharan Africa, the majority of postnatal newborn care and counseling is provided by formally-trained healthcare providers. However, most studies that document the provision of postnatal care do not differentiate between the cadres of providers wherein healthcare providers may be physicians, clinical officers (similar to physician assistants in the United States [U.S.]), nurses, or nurse-midwives with various levels of training (Dhingra et al., 2014; Oduro-Mensah et al., 2013).

In Kenya, the majority of newborn care and counseling is done by nurse-midwives (Kenya Ministry of Health, 2012). The Kenyan Ministry of Health (MOH) newborn guidelines recommend that postnatal counseling include guidance on proper breastfeeding, thermal care, appropriate follow-up examinations, immunizations, education on danger signs, and timely care-seeking (MPH & MMS, 2010). Despite these recommendations, there is little published literature that describes the care recommendations that are actually provided (Murphy et al., 2018). The few studies

available on nurse and nurse-midwife provision of care recommendations in both Kenya and sub-Saharan Africa report inconsistencies in the content and provision of care recommendations at various levels of care (Amolo, Irimu, & Njai, 2017; Rotich & Wolvaardt, 2017; Sibanda et al., 2001; Warren, Mwangi, Oweya, Kamunya, & Koskei, 2010).

The one published study that examined healthcare provider knowledge, performance, and counseling regarding postnatal care in Kenya was conducted in an outpatient, publicly-funded clinic setting (Warren et al., 2010). Warren et al. (2010) reported that prior to the study-specific postnatal training on updated postnatal care guidelines, healthcare providers recommended only one of the guidelines, which was that the first newborn postnatal examination after discharge from the facility should be at six weeks after birth. After training, most providers counseled mothers and family caretakers on the majority of the other postnatal care recommendations; however counseling on complete monitoring, assessment, and counseling of the newborn care recommendations decreased over time (Warren et al., 2010). This suggests that reinforcement and continuing education may be needed to sustain postnatal newborn care recommendations over time (Warren et al., 2010).

Two other studies measured mothers' knowledge of postnatal care when given by nurses in publicly-funded hospitals (Amolo et al., 2017; Rotich & Wolvaardt, 2017). In these studies (one of which was conducted at the site of this study), mothers reported having unmet postnatal newborn knowledge needs after discharge from the postnatal ward and the newborn unit (sick newborn nursery) at their respective healthcare facilities

(Amolo et al., 2017; Rotich & Wolvaardt, 2017). This suggests that gaps remain in the transfer of postnatal newborn care recommendations from the nurse-midwives to the mothers of both sick and well newborns.

Nurses need to provide thorough counseling on postnatal newborn care recommendations before newborns transition to outside of the formal healthcare system (Amolo et al., 2017; Rotich & Wolvaardt, 2017). Formally-trained nurses and nurse-midwives in Kenya are licensed healthcare professionals who have both the didactic and skills-based training to provide postnatal newborn care and counseling on care recommendations to family caretakers (Directorate of Public Service Management Kenya, 2014). There is a clear gap in the literature regarding the specific recommendations that are given by nurse-midwives and how they are provided.

Other Factors Impacting Postnatal Care

Literature from sub-Saharan Africa and Kenya also identifies sociocultural, economic, and other environmental factors that may influence the content and provision of postnatal newborn care recommendations provided by formally-trained providers. Sociocultural factors may include the status of nurse-midwives within the Kenyan health care system or the role of male versus female nurse-midwives (MOH, 2012). Economic factors may include staffing levels or work disruptions (Duysburgh et al., 2015). Environmental factors may include the availability of care protocols, facility-based cultural norms in prioritizing postnatal care, or the inclusion of nurse-midwives in health

policy-making (Duysburgh et al., 2015; Juma, Edwards, & Spitzer, 2014; Njuguna, 2015).

A study on Kenyan health policies intended to address maternal and newborn mortality also alluded to systemic barriers that resulted in the sporadic provision of postnatal care. One such policy provided free maternal-child primary healthcare throughout the antenatal-to-postnatal care continuum (Duysburgh et al., 2015; Njuguna, 2015). Although well-intentioned, government leaders failed to anticipate exponential increases in care-seeking and thus neglected to provide enough staff to accommodate the patient census or continuing education to improve the quality of care (Duysburgh et al., 2015; MOH, 2016; Sacks & Langlois, 2016). These factors, combined with other changes to the financing and restructuring of the healthcare system, resulted in shortages of medicines and supplies, which caused service disruptions as healthcare workers of all cadres and disciplines protested the poor working conditions by going on strike (Njuguna, 2015). Additionally, there is evidence of the absence of facility-specific policies and procedures or job aides to guide the content and provision of postnatal newborn care and counseling recommendations (Odura-Mensah et al., 2013). Lastly, there are few continuing education opportunities to inform nurses and nurse-midwives about updates to international newborn guidelines (Odura-Mensah et al., 2013; Warren et al., 2010).

PURPOSE AND RESEARCH QUESTIONS

The purpose of this study was to describe the recommendations that nurse-midwives provide to family caretakers for care of the term well-newborn during the postnatal period. In addition, this study explored the factors that may influence the content and provision of the care recommendations. The findings can be used to inform interventions that address nurse-midwife postnatal newborn care practices at the academic, clinical, and administrative levels of the tertiary public healthcare system in Western Kenya.

The purposes of this study were to:

1. Describe the postnatal newborn home care practice recommendations that nurse-midwives provide to mothers and caretakers in Eldoret, Kenya.

    Research Question One: For the postnatal period, what are the newborn care recommendations that nurse-midwives provide to mothers and caretakers and how are they provided in the postnatal ward at a publicly-funded tertiary-level hospital in Eldoret, Kenya?

2. Explore the factors that may influence the content and provision of the recommendations the nurse-midwives provide.

    Research Question Two: What are the factors that may influence the content and provision of nurse-midwife recommendations for home care of newborns in the postnatal ward at a publicly-funded tertiary-level hospital in Eldoret, Kenya?

Overview of Study

This study was a rapid, focused, ethnographic assessment that described the newborn recommendations for home care that nurse-midwives provided to mothers and family caretakers prior to discharge from the postnatal ward of a publicly-funded tertiary-level hospital in Western Kenya. In recognizing that nursing practice and the provision of care are influenced by many factors, this study also documented factors that may have influenced the content and provision of the recommendations for newborn home care practices.

Implications for Nursing

In Kenya, the majority of newborn care is performed by nurses and nurse-midwives at all levels of care (MOH, 2012). In rural settings, they may be the only formal healthcare provider for the newborn (Directorate of Public Service Management Kenya, 2014). A key responsibility of nurses is to counsel families on home care recommendations for newborns before they are discharged from the health facility after delivery. Therefore, overall postnatal newborn health and the provision of such nursing care may be inextricably linked. Because of the physiological complexities associated with the newborn transition in the first weeks of life, newborns have unique ongoing health needs when in the healthcare, community, and home settings (Amolo et al., 2017; Bee, Shiroor, & Hill, 2018; Rotich & Wolvaardt, 2017). As the most accessible healthcare provider across all settings and the provider most often responsible for well-newborn care in Kenya, formally-trained nurses and nurse-midwives are well-positioned

to influence newborn health. Therefore, it is critical that nurses and nurse-midwives are able to assess, monitor, and care for normal newborns, identify and refer sick newborns for additional care, and provide counseling to mothers and family caretakers on postnatal newborn care recommendations throughout the postnatal period.

ORIENTING FRAMEWORK OF THE STUDY

This study used Madeleine Leininger's theory of culture care diversity and universality, also called the culture care theory (CCT), as an orienting framework (Leininger, 2002). In qualitative research, an orienting framework situates the phenomena in question within a broader theoretical perspective and corresponding assumptions. This helps to orient the researcher to an initial starting point from which to begin thinking about the phenomena. While an orienting framework provides an initial theoretical perspective to inform the research process, it remains flexible and open to the organic and emic perspectives that are inherent to ethnographical research questions and study design (Patton, 2008). Themes regarding the phenomena are free to emerge from the iterative and hybrid blending of deductive and inductive data analysis that inform conclusions while remaining bound by the orienting framework that grounds the phenomena (Fereday & Muir-Cochrane, 2006; Patton, 2008).

Culture Care Theory, Culture of Nursing, and the Sunrise Orienting Framework

Culture Care Theory

The culture care theory is deeply rooted within the theoretical perspective of nursing, which is a practice-based discipline. According to Leininger,

> Nursing is a learned, humanistic, and scientific profession and discipline focused on human care phenomena and caring activities in order to assist, support, and facilitate or enable individuals or groups to maintain or regain their health or wellbeing in culturally meaningful and beneficial ways, or to help individuals face disabilities, illnesses, or death (Leininger, 2002, p. 46).

The concept of *care* is often described as the essence of nursing. The construct of *caring* is described as the "actions, attitudes, and practices to assist or help others towards healing and wellbeing" (McFarland, 2018, p. 43). The CCT was developed from observations Leininger made while providing nursing care in hospitals in the U.S. and from her doctoral work as an anthropology student studying families in rural New Guinea in the 1960's. She noticed that her nursing care and practice were heavily guided by biomedical traditions that emphasized medical intervention and technology to treat physiological disease with minimal consideration of individual cultural background or beliefs regarding care (Leininger, 2002). Leininger posited that in order for nurses to provide care that would promote comprehensive and holistic health and wellbeing, a patient's cultural background, beliefs, and preferences should be incorporated into the nursing care that was provided (Leininger, 2002).

The Culture of Nursing

Although one use of the CCT is to guide the provision of culturally-appropriate nursing care for patients, Leininger proposed that it can also be used to examine the *culture of nursing* to determine the manner in which nurses provide care and the factors that influence how care is provided (Hubbert, 2018). The *culture of nursing* is defined as "the learned and transmitted lifeways, values, symbols, patterns, and normative practices of the members of the nursing profession" (Hubbert, 2018, p. 288), and consists of an *ideal culture* and a *manifest culture* (Leininger, 2002). An ideal culture of nursing describes norms where nurses are able to provide care to each patient in the most person-centered manner. The manifest culture refers to the actual care that is provided, since in reality, many factors may prevent ideal nursing care from materializing (Leininger, 2002).

As an orienting framework, the CCT situated the study within the theoretical perspective of nursing and presented the *provision of care* as a key construct within the nursing paradigm. The CCT also assisted the researcher to focus on the concept of manifest culture to describe the actual newborn care recommendations that were provided and helped her to explore the factors that may have influenced the content and provision of the recommendations in the study setting.

The Sunrise Orienting Framework

To illustrate the constructs and their possible inter-relatedness within the CCT, Leininger created an *enabler* (or aid), which she called the *sunrise model* because

visually it looks like a sunrise (McFarland, 2018). Despite the labelling of the sunrise model as an orienting framework, model, or enabler by the author of the CCT, for consistency, the sunrise model will be referred to as an *orienting framework* to differentiate between theoretical assumptions of *models* and *orienting frameworks.*

As a visualization of the CCT, the sunrise orienting framework does not depict static quantitative relationships between the concepts, but it is instead a visual guide that can aid study of the phenomena to tease out and identify possible variables and suggested relationships, without measuring the strength, mediation, moderation, or direction of the relationship (see Figure 1; Leininger, 2002; McFarland, 2018). Such a framework is particularly useful in exploratory studies where little is known about the phenomenon (Leininger, 2002) and may be adapted as needed for a particular study (M. McFarland & H. B. Wehbe-Alamah, personal communication, March 19, 2019).

The picture of the orienting framework illustrates the two key parts of the CCT: 1) the cultural and social structure dimensions and; 2) the three modes of care decisions and actions (McFarland, 2018). While the CCT can be utilized in its entirety, this study focused on specific cultural and social structure dimensions and how they influence the nursing care that is provided. The three culture care modes of decisions and actions relate to the nursing care that is provided after the nurse has collaborated with the patient to preserve/maintain, accommodate/negotiate, or repattern/restructure their nursing practice to provide culturally-congruent care.

Cultural and Social Structure Dimensions

The sunrise orienting framework is divided into two halves demarcated by a thick black line in the middle. The upper half above the black line illustrates broad cultural and social structure factors (represented by eight dimensions) that may influence the phenomena within nursing, and the very top of the framework depicts a worldview that broadly encompasses these dimensions (McFarland, 2018).

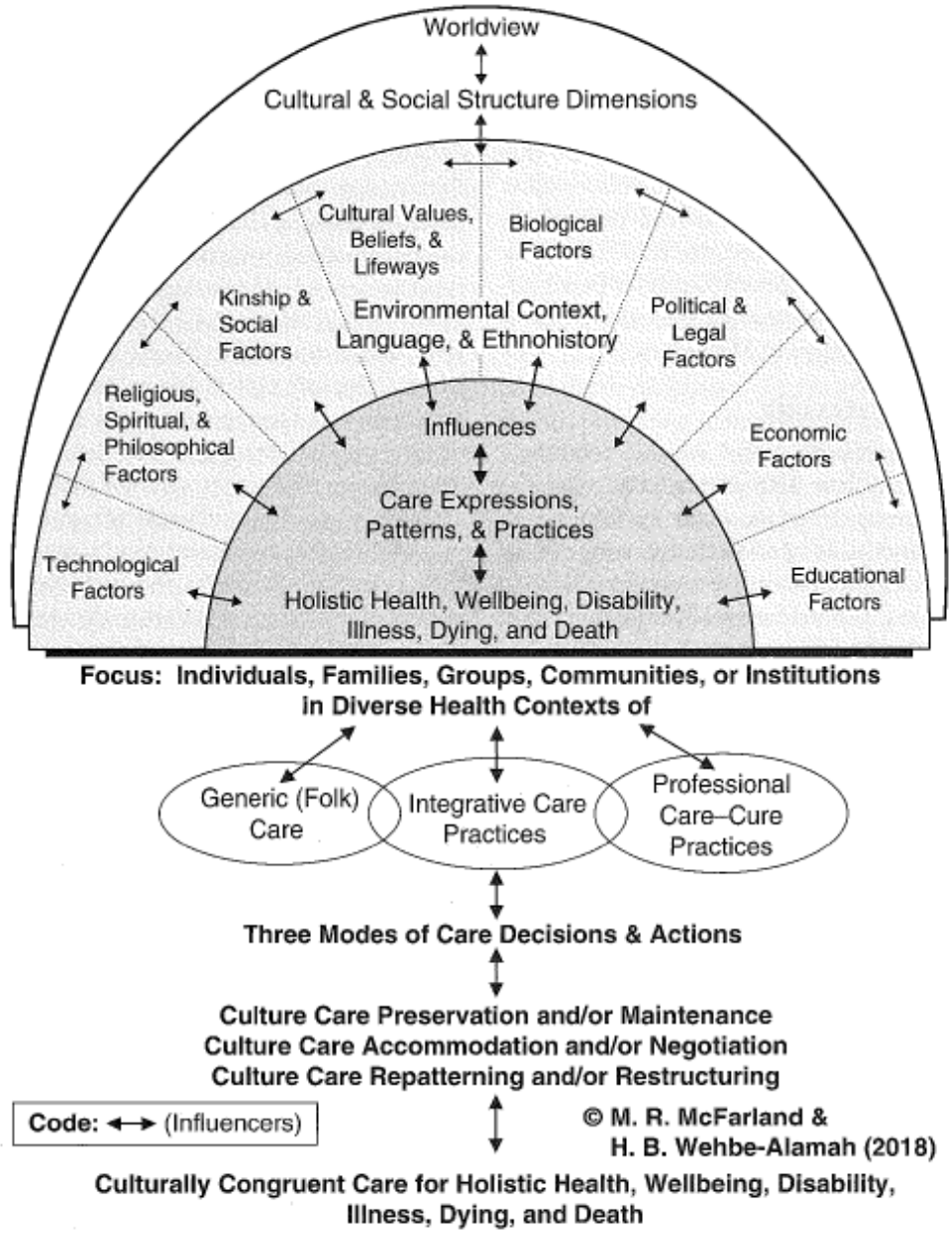
The eight dimensions represent technological factors, religious and philosophical factors, kinship and social factors, cultural values, beliefs and lifeways factors, biological factors, political and legal factors, economic factors, and educational factors (McFarland, 2018). Together, these cultural and social structure dimensions influence each other to create the overall environmental context, language, and ethnohistory of how nurses provide care (McFarland, 2018).

The worldview dimension in the sunrise orienting framework refers to the broader societal outlook that shapes a culture, individual values and perspectives, or influences decision making that can influence care practices (McFarland, 2018). Technological factors refer to equipment or improvised devices that may influence care practices. Religious, spiritual, and philosophical factors refer to the belief in a higher power or force that may influence the provision of care (McFarland, 2018). Kinship and social factors refer to family or social ties that influence care practices. Cultural values, beliefs, and lifeways refers to inherent norms or rituals related to care (McFarland, 2018). In this study, this dimension will be represented by norms or rituals at the hospital or ward level that form collective ward cultural values, beliefs, and lifeways. Biological factors refer to

static genetic attributes or the presence of a condition to influence care practices. Political and legal factors refer to regulations and policies that influence practices (McFarland, 2018). Economic factors refer to fiduciary-related influencers that impact care practices (McFarland, 2018). Because this study examines the culture of nursing care that is provided in a hospital ward, in this study, the educational factors dimension will refer to continuing educational opportunities beyond basic professional training that may influence care practices in the workplace.

Just below the black line, the orienting framework depicts additional constructs that influence the care a nurse provides. Professional care-cure practices are *etic* in nature and refer to practice knowledge that the nurse has formally acquired through an educational institution (McFarland, 2018). Generic (folk) care is *emic* in nature and refers to the traditional practices and beliefs that a nurse may acquire through their own personal experiences that they may then draw on to provide care (McFarland, 2018). Together, these two dimensions combine to form the integrative care practices dimension (McFarland, 2018).

While not part of this study, the orienting framework then depicts the three modes of care decisions and actions where nurses help individuals to preserve/maintain, accommodate/negotiate, or repattern/restructure their beliefs or values to optimize their health (McFarland, 2018).



Leininger's Sunrise Enabler to Discover Culture Care. Used with permission. McFarland, M. R., & Wehbe-Alamah, H. B. (2018). Source: McFarland, M. & Wehbe-Alamah, H. (2018). Leininger's Transcultural Nursing Concepts, Theories, Research, & Practice. (4th edition). New York, NY: McGraw-Hill Education. ISBN: 978-0-07-184113-9

Figure 1. Leininger's sunrise enabler (orienting framework) to discover culture care

This study used the cultural and structural dimensions of the sunrise orienting framework and two practice dimensions as a guide in discovering the emic nursing care expressions, patterns, and practices surrounding the postnatal newborn care recommendations that nurse-midwives provide to mothers and family caretakers (see Figure 2). Because of study limitations, it was anticipated that there would be insufficient data to support the inclusion of the technological; religious, spiritual, and philosophical; kinship and social; and biological factors dimensions so they are removed from the adapted orienting framework. For additional clarification, in this study, the cultural values, beliefs, and lifeways dimension represents hospital or ward values, beliefs, and lifeways and not all the cultural values, beliefs, and lifeways that impact nurses or nursing care. It was also anticipated that data would be collected that pertain to other emic dimensions. Use of the orienting framework helped identify factors related to the phenomena that may inform changes in clinical, administrative, or educational policies or practices that have the potential to reduce neonatal mortality.

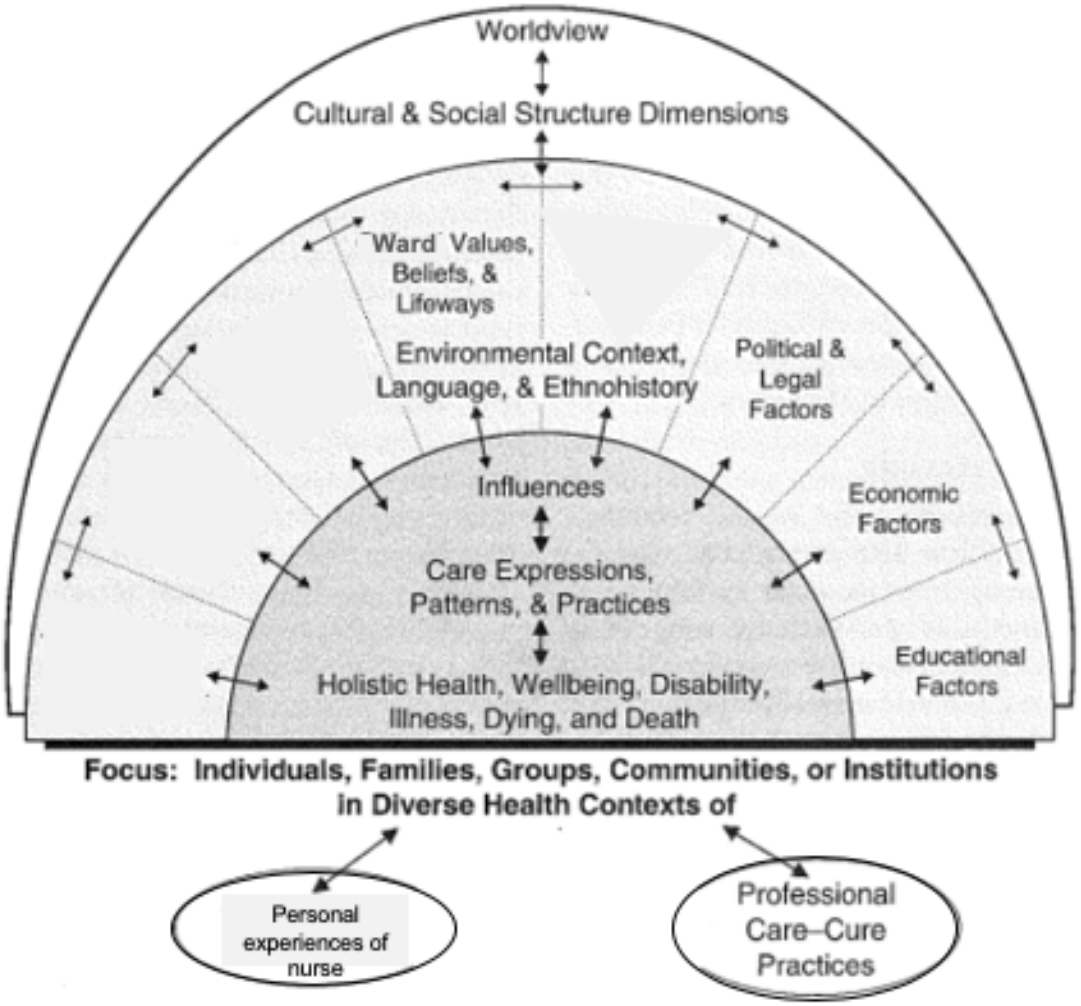


Figure 2. Sunrise orienting framework to guide study of nurse-midwife provided postnatal newborn care recommendations

DEFINITIONS

Antenatal Care -

> the care provided by skilled healthcare professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy. The components include: risk identification; prevention and management of pregnancy-related or concurrent diseases; and health education and health promotion (WHO, 2016, p. 1).

Care - "an abstract or concrete phenomenon related to assisting, supporting, or enabling experiences or behaviors for others with evidence for anticipated needs to ameliorate or improve a human condition or lifeway" (Wehbe-Alamah, 2018, p. 15).

Caretaker - local term used by healthcare providers to describe the person helping the mother to care for the newborn in the hospital and likely at home. Usually the mother-in-law, sister-in-law, or aunt (Personal observations by the author, October, 2018).

Caring - "actions, attitudes, and practices to assist or help others toward healing and wellbeing" (McFarland, 2018, p. 43).

Clinical Officer - "a person who, having successfully undergone a prescribed course of training in an approved training institution, is a holder of a certificate issued by that institution and is registered under this Act" (Clinical Officers Act, 2017, p. 5). Clinical officers undergo three years of training and an internship of one to one and a half years after high school and they can provide care in medicine, minor surgery, orthopedics, dermatology, anesthesia, and otolaryngology in urban and rural settings and may diagnose, prescribe and manage general care of patients (East, Arudo, Loefler, & Evans, 2014; Mullan & Frehywot, 2007). Similar to a

physician's assistant in the U.S. (Everlynne, Clinical Officer intern, personal communication, December 11, 2018).

Consultant - the highest level of medical training in Kenya; similar to an attending physician in the U.S. (Everlynne, Clinical Officer intern, personal communication, December 11, 2018).

Culture - "the learned, shared, and transmitted values, beliefs, norms, and lifeways of a particular culture that guide thinking, decisions, and actions in patterned ways" (McFarland, 2018, p. 43).

Culture of nursing - "the learned and transmitted lifeways, values, symbols, patterns, and normative practices of members of the nursing profession of a particular society" (Leininger, 2002, p. 183).

Early postnatal period - the time encompassing the first two to seven days after birth (WHO, 2010).

Emic -

> The learned and transmitted lay, indigenous, traditional, or local folk knowledge and practices that are assistive, supportive, enabling, and facilitative acts or toward others with evident or anticipated health needs in order to improve wellbeing or to help with dying or other human conditions (McFarland, 2018, p. 46).

Etic - "Formal and explicit cognitively learned professional care knowledge and practices obtained generally through educational institutions (McFarland, 2018, p. 46).

Immediate postnatal period - the first 24 hours after birth (WHO, 2010).

Intrapartum period - the period encompassing the first through the third stage of labor until delivery of the placenta (WHO, 2018).

Kenya registered midwife - a person who has completed the appropriate diploma-based program with 12 months of post-basic training and passed the required exams (Nursing Council of Kenya, n.d.[a]).

Kenyan registered nurse -

> A person who has registered on the appropriate register who satisfies the [Nursing] Council that he is of good character and has paid the prescribed registration fee, and who
>
> (a) has undergone a prescribed course of instruction and has passed the appropriate examination conducted or prescribed by the Council; or
>
> (b) has undergone a course of training and passed an examination, elsewhere than in Kenya, which the Council recognizes as equivalent to the training and instruction required in the case of persons trained in Kenya and as equivalent to the qualification by examination required under this Act. (Nurses Act, 2011, p. 7)

Kenya registered nurse-midwife - a person who has completed the required diploma- based program with 42 months of basic training and passed the exams (Nursing Council of Kenya, n.d.[a]).

Late postnatal period - the time encompassing the first 8 to 42 days of life from birth (WHO, 2010).

Neonatal death - deaths among live births during the first 28 completed days of life (WHO, 2006).

Neonatal mortality rate - the number of neonatal deaths divided by the number of live births multiplied by 1,000 in a given period (WHO, 2006).

Neonatal period - the time beginning at birth and ending after 28 days of completed life (WHO, 2006).

Postnatal care (PNC) - "preventive care practices and routine assessments to identify and manage or refer complications for both the mother and baby" (Warren, Daly, Toure, & Mongi, 2006, p. 81).

Postnatal period - the period beginning immediately after the baby is born until 42 days (six weeks) after birth (WHO, 2010).

Registrar - qualified physicians who are in training to become consultants (Everlynne, Clinical Officer intern, personal communication, December 11, 2018).

ETHICAL OVERSIGHT

This study was approved by the Institutional Review Board at The University of Texas at Austin, Austin, Texas (see Appendix 1), the Institutional Review and Ethics Committee at Moi University and Moi University Teaching and Referral Hospital (MTRH; see Appendix 2), and the Chief Executive Officer of MTRH, Eldoret, Kenya (see Appendix 3). Permission was also granted by the Director of Nursing, the Deputy Director of Nursing (see Appendix 4), the Senior Head of the Department of Reproductive Health and Pediatrics, the Head of the Department for Reproductive Health, the Head of the Department of Child Health and Pediatrics at MTRH and Riley Mother and Baby Hospital of Kenya (RMBHK), and the Dean of the Moi University School of Nursing (MUSoN; see Appendix 5). In addition, the researcher obtained temporary Kenyan nurse licensure from the Kenya Nursing Council (NCK) per MTRH request (see Appendix 6).

LIMITATIONS

This study was a focused ethnography that was conducted in one postnatal ward at one hospital and one School of Nursing at a public university in Western Kenya. The use of two single sites decreased the ability to generalize the study findings to multiple other settings (Polit & Beck, 2012). This study included direct observations of nurse-midwife interactions with mothers and other newborn caretakers on the postnatal ward, which may have introduced the Hawthorne effect, where those being observed may change their actions or behaviors because they know they are being watched, thus reducing the validity of the observations (Polit & Beck, 2012).

This study excluded non-English speaking participants due to limited funding that precluded translation of the study documents into another language or the use of an interpreter. In addition, the presence of a language barrier limited the data obtained from participant observation of nurse-midwife and mother or caretaker interactions to the length of the interaction and if the mother or caretaker was observed having opportunities to ask questions to the nurse-midwife. By excluding non-English speakers, it is possible that the researcher did not collect the full breadth of data, for example on traditional newborn care recommendations, that non-English speaking formal healthcare providers may provide.

ASSUMPTIONS

This study assumed that the richest sources of data (events, activities, participants, and documents) to answer the study questions were included in the study sample and that all data sources were telling the truth. It also assumed that the differences in race, class, nationality, gender, education, and power would be minimized by being transparent about the study

objectives and the researcher's role as a nurse. It also assumed that the timeframe proposed to do the study was adequate to maximize data collection and that data analysis adequately reflected the themes that best describe the phenomena in question. It was also assumed that researcher participation in reflexive activities such as journaling, bracketing, and reflection reduced as much bias as possible from being introduced into the study.

SUMMARY

This chapter presented an overview of continued disparities in child mortality that disproportionately impact newborns globally and in Kenya. It then reviewed the physiological changes that occur in the normal newborn during the postnatal period before introducing low-cost, globally-accepted recommendations that promote newborn health across diverse settings. This chapter then posited that formal healthcare providers, such as nurse-midwives, may be uniquely positioned to counsel mothers and caretakers on the care of the newborn at home, however, there are demonstrated gaps that support the need for additional study regarding nurse-provided postnatal newborn care recommendations in Kenya at the educational, clinical, administrative, and policy levels. To begin to address this gap, this chapter proposed the use of Leininger's culture care theory to study the newborn care recommendations that nurse-midwives provide to mothers and caretakers in the clinical setting, and the potential factors that may influence the content and provision of the recommendations in Eldoret, Kenya. Finally, key definitions, ethical considerations, study limitations, and assumptions of the study were discussed.

Chapter Two will provide an overview of the epidemiological burden of neonatal mortality in Kenya. Then, the postnatal newborn care recommendations endorsed by the Kenyan Ministry of Health will be reviewed followed by data regarding key neonatal indicators

reported in the 2015 Kenya Demographic and Health Survey that demonstrate the urgent need to address newborn health and care recommendations during the postnatal period in the study region. The chapter then presents key governmental strategies to address newborn health along with an overview of the nursing workforce and training in Kenya. It ends with a manuscript of an integrative literature review of formally- and informally-trained healthcare provider postnatal newborn care recommendations in sub-Saharan Africa that is currently under review.

Chapter Two: Epidemiology, Health Indicators, Overview of the Kenyan Healthcare System and the Nursing Workforce in Kenya & Literature Review

This chapter is presented in three parts. The first part describes the epidemiology of neonatal mortality in Kenya, presents an overview of MOH-endorsed newborn care recommendations, and reports on the postnatal newborn health indicators tracked by the *Kenya Demographic and Health Survey* (KDHS). The second part of this chapter presents an overview of broad governmental strategies to address newborn health in Kenya, before providing a description of the healthcare system, the nursing workforce, and the requirements for training and licensure as a nurse in Kenya. Finally, in Part Three, this chapter presents a literature review of healthcare provider knowledge, performance, counseling, and use of guidelines regarding postnatal newborn care recommendations. Due to limited literature on postnatal healthcare providers in Kenya, the review included all countries in sub-Saharan Africa.

PART ONE

EPIDEMIOLOGY OF NEONATAL MORTALITY

In 2017, approximately 2.5 million newborns around the world died during their first month of life, a devastating loss of new life and immeasurable loss for families (Flenady et al., 2014; UNIGCME, 2018). Approximately half of these deaths occurred within the first 24 hours of birth with the rest during the first 28 days of life, which is also known as the neonatal period (UNIGCME, 2018; WHO, 2006). Despite medical advances and known low-cost interventions to prevent death or treat complications during this time, rates of neonatal mortality, which is the number of deaths in the first completed 28 days of life per 1,000 live births in a given year or period (WHO,

2006), have increased by 5% between 2000 and 2017 (UNIGCME, 2018).

Higher rates of newborn mortality are experienced in sub-Saharan Africa, including in Kenya, where the neonatal mortality rate is 22 deaths per 1,000 live births (Kenya National Bureau of Statistics [KNBS], 2015). This is considerably higher than the global United Nation's Sustainable Development Goal (SDG) of 12 deaths per 1,000 live births by 2030 (KNBS, 2015). In Kenya, approximately 56% of deaths in infants under 12 months old occur during the neonatal period (KNBS, 2015); this equates to approximately 92 babies per day until 28 days of life (UNICEF, n.d.). Of those deaths, approximately 75% occur within the first week of life (UNICEF, n.d.). According to UNICEF (n.d.), the major causes of neonatal mortality in Kenya are birth asphyxia and birth trauma (31.6%), prematurity (24.6%), and sepsis (15.8%). In addition to the immeasurable psychological burden of newborn loss for families, it is estimated that neonatal mortality costs the Kenyan economy billions of international dollars (or purchasing power parities [PPP]) in future lost productivity (Kirigia, Muthuri, Nabyonga-Orem, & Kirigia, 2015).

Table 2

Basic Demographic Indicators in Kenya

Population	43 million
Density	73.9 people per km^2
Percent Urban	32.3%
Crude birth rate	30.5 per 1,000 people
Crude death rate	10.4 per 1,000 people
Total fertility rate	3.9 births per woman
Maternal mortality ratio	362*/510** deaths per 100,000 live births
Neonatal mortality rate	22 deaths per 1,000 live births
Infant mortality rate	39 deaths per 1,000 live births
Life expectancy at birth	58 years

*KNBS, 2015; **World Bank, 2015.

In Kenya, the majority of neonatal deaths occur in urban areas among educated mothers in the highest wealth quintiles (KNBS, 2015; see Table 3). This population also had higher rates

of antenatal care visits, skilled birth attendance, and postnatal follow-up examinations (KNBS, 2015). One study attributed higher rates of neonatal mortality in the urban population to the large population of slum settlements (Keats et al., 2017), however, this does not explain higher rates of mortality among urbanites with high antenatal, intrapartum, and postnatal care coverage found in the highest wealth quintiles. It is possible that rates of neonatal mortality and other socioeconomical indicators are underestimated in rural populations.

Table 3

Socioeconomic Indicators & Neonatal Mortality Rate (NMR) per 1,000 Live Births

Indicator	**NMR**	**Indicator**	**NMR**
Residence		**Mother's education**	
Urban	26	No education	21
Rural	21	Primary incomplete	22
		Primary complete	25
		Secondary +	23
Region	**NMR**	**Wealth quintile**	**NMR**
Coast	25	Lowest	20
North Eastern	24	Second	23
Eastern	24	Middle	21
Central	24	Fourth	26
Rift Valley*	20	Highest	26
Western	19		
Nyanza	19		
Nairobi	39		

*study region (KNBS, 2015).

POSTNATAL NEWBORN CARE RECOMMENDATIONS IN KENYA

In 2010, the Kenyan MOH issued the most recent newborn care recommendations in a maternal-child health (MCH) booklet (MPH & MMS, 2010). The recommendations include exclusive breastfeeding or feeding with expressed breastmilk for six months, thermal care (keeping the baby warm), co-sleeping with the baby under an insecticide-treated bed-net, attending postnatal care (PNC) follow-up examinations, and performing cord care (MPH & MMS, 2010). The booklet also recommends seeking medical care for poor feeding, difficulty

breathing, abnormal temperature, lethargy, or jaundice (MPH & MMS, 2010). In addition, postnatal follow-up visits are recommended at 48 hours, 1-2 weeks, 4-6 weeks, and 3 targeted visits, which are not defined (MPH & MMS, 2010).

Postnatal Newborn Health Indicators

The KDHS reports on a limited number of newborn postnatal indicators every four years. While overall trends demonstrate an increase in postnatal newborn care behaviors across Kenya, the KDHS reports short lengths of stay in the healthcare facility after delivery, an inadequate number of follow-up examinations within the six-week clinical postnatal period, and considerably lower rates of breastfeeding at four to six weeks of life compared to the first month of life (KNBS, 2015).

Postnatal Newborn Follow-up Examinations

The Kenyan *Maternal Child-Health Booklet* is issued by the MOH and given to all mothers at their first antenatal visit. It recommends postnatal follow-up examinations at 48 hours, 1-2 weeks, 4-6 weeks, and at three unspecified target visits after birth (MPH & MMS, 2010). Despite the availability of these recommendations, the KDHS reported that, of the 62% of mothers in Kenya that delivered with a skilled birth attendant, only 69% stayed with their newborns in the healthcare facility for the minimum recommended 24 hours after birth (KNBS, 2015; WHO, 2013). The KDHS also reported that only 36% of newborns in Kenya had a postnatal examination within the first two days after birth and that 62% did not receive a postnatal examination within the first week of life. In addition, 52% of newborns that were delivered in a healthcare facility did not receive a postnatal examination at all (KNBS, 2015). Such newborns ranged from a low of 36% in the Central province to a high of 92% in North

Eastern Kenya (KNBS, 2015). In the study location of Western Kenya, approximately 69% of all newborns had no postnatal examination at all (KNBS, 2015).

Rates of Breastfeeding

The only other postnatal newborn care behavior reported by the KDHS is the rate of exclusive breastfeeding (KNBS, 2015). The KDHS reported that 84% of newborns are exclusively breastfed for the first one month of life, however this rate falls to 63% by one to two months of life (KNBS, 2015).

This study will take place in Eldoret, which is on the western edge of the Rift Valley ("Eldoret, Kenya," n.d.). Table 4 presents postnatal newborn health indicators for the Rift Valley and surrounding regions.

Table 4

Postnatal Newborn Health Indicators in the Rift Valley and Surrounding Regions of Kenya

	Rift Valley	Western	Nyanza	Central
Neonatal mortality (per 1,000 live births)	20	19	19	24
Early neonatal deaths (0-6 days of life per 1,000 live births	36	12	24	14
Place of delivery (%)				
Public facility	38.5	40.8	54.8	64.2
Private facility	11.7	6.2	10	26.1
Home	48.8	51.3	33.1	8.6
Birth assistance (%)				
Doctor	22.2	11.2	11.4	55.4
Nurse/Midwife	29	36.6	53.6	34.3
TBA	20.9	30.9	19.5	0.9
Relative/friend	21.2	9.1	7.2	5.8
% skilled help	51.3	47.8	65	89.7
% C-Section	5.6	4.3	5.1	15.7
First postnatal newborn visit (%)				
< 1 hour of life	9.6	9.7	7.1	14.6
1-3 hours of life	8.7	11.1	21.6	33.7
4-23 hour of life	2.5	2.4	8.1	10.2
1-2 days of life	2	4.4	4.5	4.2
3-6 days of life	2	3.1	2.7	1.2
No check-up within two days of life	77.3	72.4	58.8	37.2
No check-up in first 6 weeks of life	75.2	69.1	56.1	36.1
Unknown	0.1	0.2	0	0
Provider of first newborn check-up (%)				
Doctor/nurse/midwife	19.3	24.8	37.4	62.8
CHW	0.1	0	0	0
TBA	3.4	2.8	3.9	0
% of live births by size (per mother's estimate)				
Very small	3.1	3.4	1.8	3.1
Smaller than average	11.4	8.5	6.3	17.5
Average or large	84.7	87.5	88.5	79.1
Don't know	0.8	0.8	3.4	0.3
% of births with birth weight reported	53.9	51.1	69.2	95.6
% of births reported <2.5kg	6.6	4.8	3.5	9.2
Breastfeeding				
% ever breastfed	98.9	98.9	97.6	99.3
% within 1 hour of life	69.4	52.8	58.4	48.1
% within 1 day of life	89.5	92.3	95.3	92.4
% Receiving Prelacteal Feeding (not mother's milk) in first 3 days of life	18.6	25	11.6	7.7

(KNBS, 2015).

In the Rift Valley, the neonatal mortality rate is 20 deaths per 1,000 live births (KNBS, 2015). The neonatal mortality rate for newborns in the first zero to six days of life is 36 deaths per 1,000 live births (KNBS, 2015). A majority of births still take place at home (48.8%), but with some skilled help (KNBS, 2015). Women in the Rift Valley stated that both distance and their perception that facility delivery was unnecessary were their major reasons for not delivering in a health facility (MOH, 2012). Only 22.7% of newborns received a postnatal follow-up visit in the first two days of life and only 24.8% of newborns received a postnatal follow-up visit in the first 6 weeks of life (KNBS, 2015). Although 84.7% of mothers reported having an average-sized or large newborn, only 53.9% of newborn weights were reported (KNBS, 2015). Rates of breastfeeding within the first day of life are high at 89.5%, but rates beyond this time are only reported at the national level and are known to decrease past the first month of life (KNBS, 2015). This review of newborn health indicators supports the need for research that informs interventions to address postnatal newborn health behaviors in the Rift Valley.

PART TWO

THE KENYAN HEALTHCARE SYSTEM

The Kenyan healthcare system consists of both public and private delivery mechanisms (MOH, 2012). The public healthcare system provides approximately 50-60% of health services in Kenya (MOH, 2012) and oversees the health facility where the study took place. In 2010, Kenya adopted a new constitution which, among other things, decentralized the healthcare system from the national government to 47 newly formed county governments (Tsofa, Goodman, Gilson, & Molyneux, 2017). Decentralization was intended to improve healthcare services by allocating decision-making and fiscal responsibility to county governments, who are now

expected to identify and address health needs relevant to the local context (KNBS, 2015). Counties also oversee local healthcare delivery infrastructure, supervise health facility management, and implement strategies for the recruitment and retention of healthcare workers, in order to meet national health policy guidelines (KNBS, 2015; MOH, 2012). Conversely, the national government is responsible for overall health policy development and strategies in the *Vision 2030* and *Kenya Health Policy Framework, 2012-2030* (aligned with the MDGs of 2000-2015), as well as healthcare delivery policies and best-practice guidelines, management of the national referral hospitals, and healthcare worker licensure and registration (MOH, 2012).

Strategies to Improve Neonatal Health

Improving maternal and neonatal health is a priority of the Kenyan government. To that end, the government has invested in several strategies. One key strategy was the removal of user fees from public healthcare facilities in 2013 to remove financial barriers to accessing care (Keats et al., 2018). Other strategies include the *Beyond Zero* initiative which launched in 2014 and focuses on safe deliveries, promoting early child health, and decreasing transmission of the human immunodeficiency virus (HIV) by providing mobile health services in rural areas (Beyond Zero, n.d.). In 2016, the MOH issued the *Kenya Reproductive, Maternal, Newborn, Child, and Adolescent Health Investment Framework* (KRMNCAHIF) which outlined strategies aimed at achieving a reduction in neonatal mortality rates to 18 deaths per 1,000 live births by 2020, and 12 deaths per 1,000 live births by 2030 to align with *Vision* 2030 goals. The framework targeted diverse stakeholders at the systems- and facility-levels with the main goals to:

1) increase the number of skilled deliveries to 87%;

2) increase the number of times a woman has 4 or more antenatal visits to 69%;

3) increase full immunization rates to 76%;

4) increase contraceptive use by married women of reproductive age to 73%; and

5) increase the number of pregnant women tested for the human immunodeficiency virus (HIV) who receive results and post-test counseling to 75% (MOH, 2016).

At the systems-level, the framework calls for: 1) equitable coverage of healthcare services; 2) increased patient demand for quality healthcare services; 3) supply-side improvements such as an increased number of healthcare facilities, increased healthcare provider capacity, and having reliable equipment and medication supplies to encourage patient utilization of formal healthcare services and; 4) to decrease the burden of HIV and acquired immunodeficiency syndrome (AIDS; MOH, 2016). At the facility-level, the framework outlined narrower strategies to improve newborn health during the immediate newborn period and included newborn resuscitation, kangaroo mother care (skin-to-skin), clean delivery practices, immediate essential newborn care, and treatment of newborn infections or sepsis (MOH, 2016). While these recommendations are critical for initial newborn survival and address many of the major causes of death during the immediate neonatal period (WHO, 2013; UNIGCME, 2018), they do little to promote ongoing assessment and monitoring of the newborn throughout the postnatal period when the newborn is outside of the formal healthcare system, even for newborns who have received intensive medical interventions or for those at risk of developing late postnatal complications.

Levels of Care in the Health System and the Nursing Workforce

As part of the devolution of the healthcare system, the Kenyan government established six levels of healthcare service delivery and the MOH outlined packages of the essential services that should be available at each level (MOH, 2012). In Kenya, nurse-midwives provide the

majority of direct healthcare services beyond the first level of care, which consists of community health workers who provide primary health promotion (MOH, 2012). The second level of health service delivery provides the lowest level of outpatient facility-based services through dispensaries or clinics. Services provided at the dispensary-level include routine maternal, newborn, and child healthcare services, family planning, and care for minor acute health needs (Knowledge for Health Project, n.d.). The MOH recommends that two to five nurse-midwives staff each dispensary and in 2012, approximately 48% of all dispensaries met this goal (MOH, 2012). The third level of health service delivery represents the lowest level of inpatient-care and outpatient maternity services at healthcare centers. Although the MOH recommends that healthcare centers are staffed with eight to tweleve nurses, only 17% of health centers met this goal (MOH, 2012). The fourth level of health service delivery is provided through district and sub-district hospitals, which are the first level of hospital care and select specialty care. This level of care employs approximately 55% of all public medical staff, including doctors, nurses, and clinical officers (MOH, 2012). The fifth level of health service delivery includes inpatient services provided via provincial and regional referral hospitals. However, this level was discontinued and replaced by county referral hospitals (MOH, 2012). The sixth level of healthcare service delivery is provided through two national referral hospitals, representing the highest level of care delivery (MOH, 2012). Control of these hospitals was retained at the federal level and were not subject to county devolution (MOH, 2012).

As in most countries, the nurse-midwife workforce is under-capacity, with a ratio of 103.4 nurses per 100,000 people (MOH, 2012). This is below the WHO recommendation of 250 nurses per 100,000 people (MOH, 2012). This shortage is further compounded by the uneven geographical distribution of nurses and service delivery; more populous counties have higher

nurse to population ratios while less populous counties have 61-83% fewer nurses than the national average (MOH, 2012). In Kenya, urban and peri-urban hospitals comprise approximately 8.4% of public healthcare facilities, however, they employ 67.9% of the nursing workforce (MOH, 2012). Dispensaries, which are located in rural areas, comprise approximately 72% of health facilities but only employ 17.7% of the nursing workforce (MOH, 2012).

Nurse-Midwife Training and Licensure

Nurse-midwifery is regulated by the Nursing Council of Kenya (NCK) which sets policies, oversees the accreditation of training programs, the administration of licensure examinations, the issuance nursing licenses, and the maintenance of a registry of all nurse-midwives (MOH, 2012). There are three levels of nurse training in Kenya. Certificate nurses (also called enrolled nurses) have 30-months of basic training (NCK, n.d.). Diploma-trained nurses and nurses holding a bachelor's degree in nursing are referred to as registered nurse-midwives and the length of their training ranges from 36-48 months (MOH, 2012; NCK, n.d.). After completion of a national qualification exam, enrolled nurses and diploma nurse-midwives may begin to work, however, bachelor's degree nurse-midwives must complete an additional year of internship training before working (MOH, 2012). The large majority of nurse-midwives are trained at the diploma level. From 2003-2012, 81.1% of nursing students were enrolled in nurse-midwife diploma programs, 10% were enrolled in certificate nursing programs, and 8.9% in bachelor's degree in nurse-midwifery programs (MOH, 2012). Diploma and degree nurses receive basic midwifery training as part of their baseline curriculum (MOH, 2012). The nursing workforce in Kenya is comprised of 39.2% certificate nurses, 57.8% diploma nurses, and 3% bachelor's-degree nurses. The NCK has discontinued nursing at the enrolled and certificate levels

(MOH, 2012). Although only 39.2% of all nurses are enrolled or certificate nurses, they provide 46.4% of the care delivered in the public healthcare sector (MOH, 2012).

Nurses in Kenya can also pursue specialty training for an additional 12-months after their basic training (MOH, 2012). As of 2012, 2,588 (13%) of nurse-midwives in Kenya had specialty training; of those, 1,938 (75%) were trained in midwifery and 56 (2%) were trained in pediatrics (MOH, 2012; NCK, n.d.). In addition, there are 14 master's level-trained nurses registered with the NCK in specialties of public health, nursing, epidemiology, medical statistics, and health service management and three PhD-prepared nurses (MOH, 2012).

Nursing Faculty

To teach at the diploma level, nursing faculty must have a bachelor's degree in nursing with a minimum of two years of clinical experience, training in education and curriculum development, and be up-to-date with their continuing education requirements (MOH, 2012). Faculty teaching at the bachelor's degree level must have a minimum of a master's degree, training in education and curriculum development, and provide evidence of scholarly activities (MOH, 2012). There is a shortage of nurse faculty, which results in higher student to teacher ratios, particularly in public institutions (MOH, 2012). For didactic learning, the NCK recommends a ratio of one instructor per 10 students. In the clinical setting, the NCK recommends one instructor for two to six students, depending on the level of patient acuity (MOH, 2012). Despite these recommendations, some publicly funded nursing schools report didactic instructor-to-student ratios of 1:50; the average ratio is 1:22 students (MOH, 2012).

The next section of this chapter will present an integrative literature review of the postnatal care recommendations that formally- and informally-trained healthcare providers know, perform, and counsel on in sub-Saharan Africa; this is currently under review.

PART THREE

LITERATURE REVIEW

Integrated Review of Healthcare Provider Recommendations Regarding Postnatal Newborn Care in Sub-Saharan Africa

Davika Reid, MSN, RN [1,2]

Alexandra Garcia, PhD, RN, FAAN [1,3]

[1] The University of Texas at Austin School of Nursing

[2] Robert Wood Johnson Foundation Future of Nursing Scholar

[3] The University of Texas at Austin Dell Medical School

Manuscript submitted with revisions to the *International Nursing Review*

Note: Tables have been renumbered for consistency with the dissertation. References for the manuscript are incorporated into the full dissertation references.

ABSTRACT

Aims: To (1) identify provider knowledge and counseling of newborn care recommendations; (2) determine provider training; and (3) assess use of care guidelines.

Background: In sub-Saharan Africa, many postnatal newborn deaths occur outside the formal healthcare system.

Introduction: Formal and informal providers including nurses and community health workers counsel caregivers on newborn care; little is known about the recommendations they provide.

Methods: Integrative review of studies conducted 2000-2018 found by searching PubMed, CINAHL, EMBASE, and African healthcare journals. Study quality was assessed and findings synthesized.

Findings: Twelve qualitative, quantitative, or mixed-methods studies of good to poor quality from seven countries were included. Eleven studies reported on one to three recommendations and one study provided training on most recommendations. Knowledge or counseling on feeding, cord care, recognizing illness, referrals, treatment by healers, home visits, immunizations, follow-up examinations, thermal care, low birthweight, and bed-net usage were reported. Provider training was minimally documented and self-reported as insufficient. Most studies reported on informal providers in the community. Four studies documented use of guidelines.

Discussion: Studies were primarily descriptive, limiting study quality. In the few published studies eligible for review, recommendations about feeding and cord care were disproportionately higher than other recommendations.

Conclusion: Additional research is needed to address and sustain provider training, knowledge, counseling, use of guidelines, and explore task-sharing on newborn outcomes.

Implications for Nursing: In formal healthcare settings, nurses perform most counseling on care recommendations. Research to evaluate reasons for low uptake of guidelines and limited counseling on recommended newborn practices is needed.

Implications for Health Policy: Policy makers across multiple sectors should invest in improved education on recommendations and facilitate collaboration between informal and formal providers to maximize consistent dissemination and uptake of evidence-based postnatal care recommendations and improve newborn health outcomes.

Keywords: healthcare providers; informal healthcare providers; newborn; neonate; nurses; nurse-midwives; midwives; postnatal care; sub-Saharan Africa.

INTRODUCTION

The postnatal period is a vulnerable time for newborns and a critical time for healthcare providers and families to prevent newborn death (United Nations Inter-Agency Group for Child Mortality Estimation [UNIGCME], 2018; World Health Organization [WHO], 2010b). In 2017, over 2.5 million newborns died in the first 28 days of life; up to 75% of those deaths occurred during the first week of life (UNIGCME 2018; WHO 2018a). Further, these deaths account for 47% of mortality in children under-five, up 41% since 2000 and almost 80% occur in sub-Saharan Africa and Southern Asia (UNIGCME, 2018). In sub-Saharan Africa, the neonatal mortality rate was 27 deaths per 1,000 live births (WHO, 2019), far above the United Nations Sustainable Development Goal of 12 deaths per 1,000 live births by 2030 (UNIGCME, 2018).

The untimely death of a newborn is emotionally devastating for families (Flenady et al., 2014) and costs millions in lost productivity to African economies (Kirigia et al., 2015; Sicuri et al. 2011). Common causes of death are prematurity and low birthweight, complications from intra-partum events, and infections (UNIGCME, 2018). Although there are several low-cost medical and community-based interventions that may prevent or treat up to 80% of the causes of mortality, these outcomes have not yet materialized (Griffin et al., 2017; WHO, 2009).

In sub-Saharan Africa, primary healthcare providers during the maternal-newborn antenatal to postnatal care continuum may have formal or informal training (Partnership for Maternal, Newborn, and Child Health [PMNCH], 2006). Formally-trained healthcare providers include licensed physicians, clinical officers, nurses, nurse-midwives, and

midwives. Informally-trained healthcare providers include unlicensed traditional birth attendants (TBAs), community health volunteers (CHVs), community health extension workers (CHEWs), and traditional healers (Sudhinaraset et al. 2013; WHO, 2007a). Because of their contact with families throughout the care continuum, both types of healthcare providers are well-positioned to address neonatal mortality through the recommendations given to caregivers (PMNCH, 2011).

The postnatal period comprises the first 6-weeks of life and is sub-divided into the immediate period of birth to 24-hours of life, the early period of 2 to 7 days of life, and the late postnatal period of 8 to 42 days of life (WHO, 2010). Several organizations provide recommendations for postnatal newborn care (see Table 5); many have been adapted by country-specific Ministries of Health (MOH) and disseminated to healthcare providers and families, e.g., the *Mother and Child Health Booklet* from Kenya (MPH & MMS, 2010) and the *Mother, Child Health and Nutrition Booklet* from South Africa (Health Department, Republic of South Africa 2012).

Table 5

Content of Postnatal Newborn Care Recommendations

Organization/ Recommendations	**Release date/most recent update**	**All newborns**	**Premature/low-birthweight/ small newborns**	**Immediate postnatal period (birth to 24 hours)**	**Early postnatal period (Days 2-7)**	**Late postnatal period (Days 8-42)**
WHO/*Essential Newborn Care* (WHO, 1994 & 2010a)	1994/2010	X		X	X	
WHO/*Postpartum Care of the Mother & Newborn* (WHO, 1998 & 2013)	1998/2013	X	X	X	X	X
PMNCH/*Essential Interventions/Commodities & Guidelines for Reproductive, Maternal, Newborn & Child Health* (PMNCH, 2011)	2011	X	X	X	X	Limited recommendations
AAP/*Helping Babies Survive Series* (AAP, n.d.)						
Helping Babies Breathe (AAP, 2010)	2009/2015	X	X	X		
Essential Care for Every Baby (AAP, 2014)	2014		X	X	Until discharge from facility	
Essential Care for Small Babies (AAP, 2015)	2015		X	X	X	Until discharge from facility
STC/*Saving Newborn Lives: Care of the Newborn*	2004	X	X	X	X	Until 28 days of life
ACNM/*Home-Based Life Saving Skills* (HBLSS)	2004/2010	X	X	X	X	Limited recommendations
Taking Care of a Baby at Home After Birth: What Families Need to Do	2011	X	X	X	X	

Legend: WHO - World Health Organization; PMNCH - Partnership for Maternal, Newborn, Child Health; AAP - American Academy of Pediatrics; STC - Save the Children; ACNM - American College of Nurse Midwives

Newborns born at home and those born in a facility but aged 24 hours to 6-weeks of life are usually cared for by their families at home, outside the formal healthcare system where complications may arise (WHO, 2009). Although healthcare providers should counsel families on care of the newborn at home, there is evidence that formal and informal healthcare provider knowledge may be low and the recommendations provided may be incomplete (PMNCH, 2006 & 2011).

A previous literature review on postnatal newborn care has described that some essential newborn care services performed by informal providers are associated with reductions in newborn mortality (Penfold et al., 2013). Provider training however, varies among and within countries, impacting the quality and provision of care recommendations (Penfold et al., 2013). Another review reported that mothers and formal and informal healthcare providers' practices related to thermal care, cord care, and breastfeeding included both potentially protective and harmful newborn practices, however, most findings were reported by mothers with few findings from providers (Bee et al., 2018).

The purpose of this integrative review was to synthesize literature on the newborn care recommendations that healthcare providers in sub-Saharan Africa know and recommend for the postnatal period of 2 to 42 days. The research questions were: What do formally- and informally-trained healthcare providers know about and recommend to family caregivers? What postnatal newborn care guidelines or resources are used by healthcare providers? What training do they receive on postnatal newborn care recommendations?

METHODS

This study was guided by Whittemore and Knafl's (2005) integrative review framework. The search strategy was informed by four librarians from nursing, medicine, and African studies at two U.S. universities. We conducted a search of the PubMed, Embase, and CINAHL databases, and a manual search of four African healthcare journals using keywords and Boolean operators of '(postpartum care) OR (neonat* care) OR (postnatal care) OR (infant care) AND sub-Saharan Africa OR Africa south of the Sahara.' We derived keywords from the PubMed keyword generator and keywords used in publications of postnatal newborn care in sub-Saharan Africa.

Study Selection

Research studies were included if they 1) were published from 2000-June 2018; 2) documented healthcare providers' knowledge, practice, recommendations, or beliefs regarding care practices for newborns between 24 hours to 42 days of life, in addition to or besides exclusive breastfeeding; 3) included a sample of formally- or informally-trained healthcare providers; and 4) were conducted only in sub-Saharan Africa. Studies were excluded if they only documented immediate medical care (e.g. resuscitation); did not provide results specific to healthcare providers; or did not provide findings for care beyond the first 24 hours of life.

All titles were screened against the inclusion and exclusion criteria; selected titles were exported to Endnote version X8 in separate folders for each database. Abstracts were screened. Articles selected from each folder were placed in a separate cumulative

folder where duplicates were deleted; remaining articles were screened in their entirety. Two members of the research team screened the titles and abstracts. Both authors agreed on the final sample (see Figure 3).

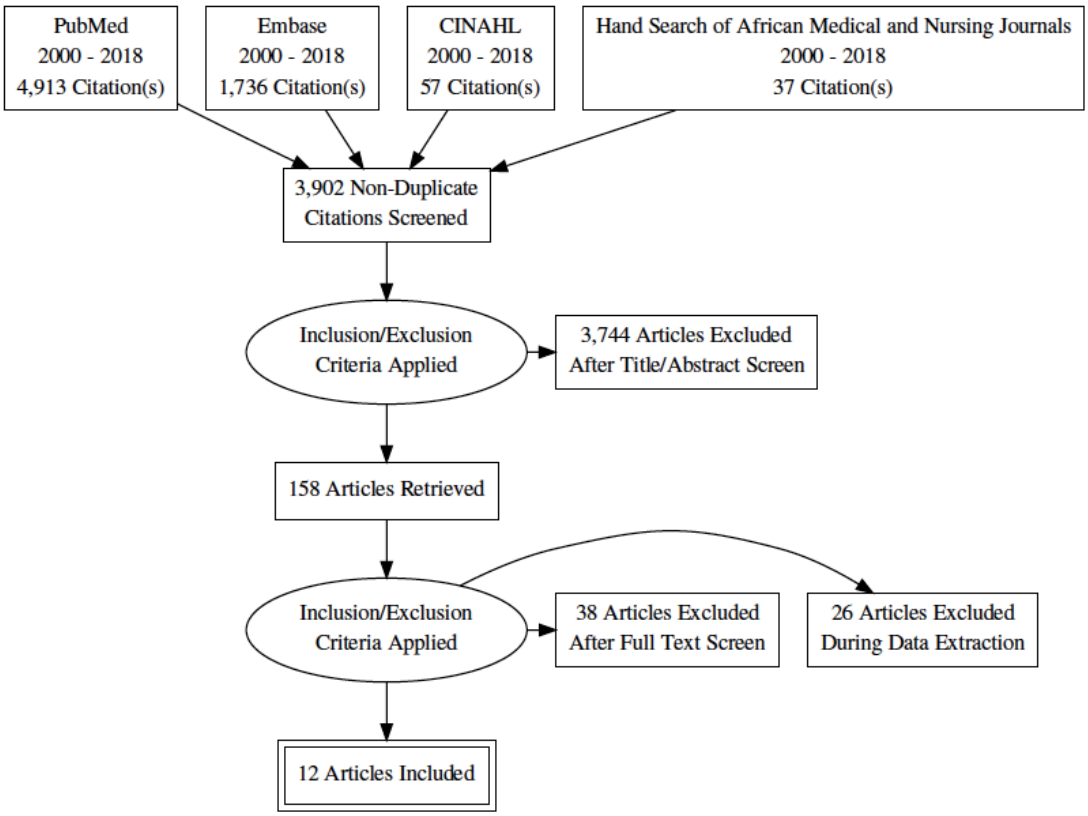


Figure 3. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flow diagram

Data Extraction

Data were extracted, displayed, and compared according to Whittemore and Knafl (2005). Findings were synthesized within the categories: study characteristics, care recommendations, and guidelines used.

Study Quality and Bias Assessment

We assessed studies for risk of bias using the validated Mixed Methods Appraisal Tool, or MMAT (Pace et al., 2012; Pluye et al., 2009). The MMAT provides criteria for uniform scoring for risk of bias across quantitative, qualitative, and mixed methods studies. There are two screening criteria regarding study objectives and data collection, four criteria for quantitative studies, and four criteria for qualitative studies (Pluye et al., 2009). Mixed methods studies are scored against three criteria in addition to the qualitative and quantitative criteria (Pluye et al., 2009). Per the MMAT, studies that met one quality criteria achieved a score of 25%; studies that met two quality criteria achieved a score of 50%; studies that met three quality criteria achieved a score of 75%; and studies that met all four criteria achieved a score of 100% (Pluye et al. 2009). We rated studies that scored 75-100% on the MMAT criteria as good, 50-74% as fair, and 0-49% as poor.

RESULTS

Study Characteristics

The 12 studies reviewed include eight conducted within the last five years (66.7%) and four conducted from 2001-2012 (33.3%). Six were qualitative (50%), four quantitative (33%), and two used mixed method designs (17%). The qualitative studies collected data using in-depth interviews and focus group discussions. Three quantitative studies used quasi-experimental designs and one used a cross-sectional design. The mixed method studies combined a cross-sectional component with in-depth interviews and focus group discussions. Three studies were conducted in Kenya (25%), two in Tanzania (17%), two in Ethiopia (17%), two in Uganda (17%), and one study each in South Africa (8%), Zambia (8%), and Zimbabwe (8%). The studies from Ethiopia and Uganda were each part of larger studies. Six studies took place in rural settings (50%), five in peri-urban settings (42%), and one in an urban setting (8%).

A total of 2,582 healthcare providers participated in the studies, consisting of 1,264 guide team members (volunteer community health promoters or community health development agents, TBAs, or wise women/men), 460 volunteer health team (VHTs) members, 281 formally trained providers (roles undifferentiated except in one study that identified 10 nurses), 253 TBAs with unspecified training, 185 health extension workers, 70 untrained TBAs, 51 traditional healers, herbalists, or diviners, 14 trained TBAs, three health facility leaders with unspecified roles, and one midwife. The studies refer to 10 newborn care categories with each article referring to 2-7 topics. Six of the 12 studies

described baseline or continuing education training on newborn postnatal care for the providers.

Study Quality

Seven studies (58%) were rated good; three fair (25%), and two poor (16%). Two qualitative studies were rated good (Dhingra et al., 2014; Sacks et al., 2015), three fair (Matsuyama et al., 2013; Mrisho et al., 2008; Peltzer et al., 2009), and one poor (Nalwadda et al., 2015), mostly due to a small sub-sample of providers or limited reporting of provider-related findings in samples of providers and family caregivers. No qualitative studies met all criteria because they failed to document reflexivity to minimize bias. All four quantitative studies were rated good (Dynes et al., 2013; Gobezayehu et al., 2014; Reeve et al., 2016; Warren et al., 2010). One mixed methods study was rated good (Kayemba et al., 2012), however, it did not address reflexivity. The other mixed methods study (Sibanda et al., 2001) was rated poorly because of limited study findings reported on providers and no reflexivity.

Although all studies had adequate sample sizes to address their objectives, several studies presented findings for a small sub-sample of providers (n = 3-12) or reported few provider findings (Matsuyama et al., 2013; Mrisho et al., 2008; Nalwadda et al., 2015; Sibanda et al., 2001). These studies were not excluded due to the exploratory nature of this review and the paucity of literature.

Knowledge and Recommendations Regarding Postnatal Newborn Care

Breastfeeding and Other Feeding Practices

Eight studies included findings on healthcare provider knowledge or counseling on breastfeeding or other feeding practices (Dhingra et al., 2014; Dynes et al., 2013; Gobezayehu et al., 2014; Kayemba et al., 2012; Mrisho et al., 2008; Peltzer et al., 2009; Reeve et al., 2016; Warren et al., 2010). Although breastfeeding was the most recommended practice, instructions about breastfeeding were inconsistent across studies. Providers recommended exclusive breastfeeding in four studies (Dhingra et al., 2014; Dynes et al., 2013; Gobezayehu et al., 2014; Warren et al., 2010). A study in Kenya however, reported that although 97% of TBAs in the study sample advised exclusive breastfeeding, 19% also advised that newborns be given additional substances during the first weeks of life (Reeve et al., 2016). Some informal providers discouraged exclusive breastfeeding because of traditional beliefs that colostrum was dirty and encouraged sweet water instead (Mrisho et al., 2008).

After an educational intervention in Kenya, formal providers counselled mothers to exclusively breastfeed and manage feeding complications more often than at baseline (Warren et al., 2010). In Ethiopia, informal providers' knowledge retention and performance on advising exclusive breastfeeding for six months showed significant increases immediately after the intervention but was significantly lower at 18 months post-intervention (Dynes et al., 2013; Gobezayehu et al., 2014). TBAs, traditional healers, and diviners in South Africa gave advice on breastfeeding but the content or duration of the recommendations was not documented (Peltzer et al., 2009). Initiating

immediate and exclusive breastfeeding was included in the training curriculum for VHTs in in Uganda, but the length of time recommended for exclusive breastfeeding was not reported (Kayemba et al., 2012).

Umbilical Cord Care

Five studies reported knowledge, beliefs, or recommendations for cord care (Dhingra et al., 2014; Kayemba et al., 2012; Mrisho et al., 2008; Sacks et al., 2015; Sibanda et al., 2001). The most common practice recommended by informal providers was to put substances on the cord to prevent infection or speed healing (Dhingra et al., 2014; Mrisho et al., 2008; Sacks et al., 2015). In Tanzanian communities, cord care was very important; when asked about applying chlorhexidine to the cord to prevent infection, a maternal-child health worker reported that if it was safe and allowed by the MOH, she would use it. TBAs also agreed that mothers should be taught to apply chlorhexidine (Dhingra et al., 2014).

Almost all TBAs recommended covering the cord with cloth to protect it from debris or infection and to prevent the cord from touching the genitals, particularly for boys believing this may cause impotence. TBAs reported that once the cord detached, dust or powders should be placed on the stump; other TBAs reported that nothing was placed on the stump (Dhingra et al., 2014).

If a cord became infected, mothers consulted TBAs. Some TBAs associated the infection with foods a mother consumed. They recommended the food causing the

infection be burned and put on the cord (Dhingra et al., 2014). Other times, breastmilk and fluid from pumpkin flowers were used for cord healing (Dhingra et al., 2014).

In Zambia, TBAs believed that blood clots in the cord stump were abnormal and predicted future illness (Sacks et al., 2015). They recommended that newborns be taken to hospital or a healer for herbal treatment. TBAs believed that breastmilk dripped on the cord would dry it, speeding detachment. TBAs in Zambia also reported that the cord should not touch the genitalia, lest the male newborn become impotent. They also believed that when the cord detached, the mother and newborn should bathe in cold water to make them strong (Sacks et al., 2015). Other beliefs were associated with the cord but not cord care. For example, the newborn was considered fragile until the cord detached so TBAs wanted it to fall off quickly so they could stop visiting; then the baby could be taken outside (Sacks et al., 2015). Only one study of licensed nurses reported on cord care; a cord check was included in the postnatal newborn assessment conducted by nurses in Zimbabwe, however the content and the timing of the cord assessment were not reported (Sibanda et al., 2001).

Illness Recognition

Three studies included information about providers' recognition of newborn illness or danger signs (Kayemba et al., 2012; Matsuyama et al., 2013; Warren et al., 2010). During home visits, 65% of VHTs checked the skin and cord for danger signs, however, only 9% advised mothers on prompt care-seeking. Most VHTs could correctly state three or more danger signs but not always the most serious. Most identified an

infected cord (81%) and skin rash (69%), but only 43% identified failure to breastfeed as a danger sign (Kayemba et al., 2012).

After an educational intervention in rural Kenya, formal providers were more likely to assess newborns' difficulty feeding and temperature instability at the 48-hour visit than the two- or six-week follow-up visits. During the two-week visit, approximately 50% of providers asked mothers about three newborn danger signs but at six-weeks, few asked about breathing difficulties or fever (Warren et al., 2010).

Referral of Sick Newborns

Three studies addressed referral of sick newborns for treatment (Kayemba et al., 2012; Nalwadda et al., 2015; Peltzer et al., 2009). Nearly all VHTs surveyed in Uganda (99.8%) reported they would not treat sick newborns but refer them to the healthcare facility (Kayemba et al., 2012). TBAs in Uganda also reported referring sick newborns (Nalwadda et al., 2015). In South Africa, traditional healers gave advice on medicines and sometimes referred newborns to the clinic, however, indications for referral were not reported (Peltzer et al., 2009).

Treatment by Informal Providers

Three studies included content about TBA or traditional healers' knowledge or treatment of sick newborns; the majority of informal providers gave advice or actively treated newborn illnesses (Dhingra et al., 2014; Matsuyama et al., 2013; Peltzer et al., 2009). In South Africa, traditional providers gave advice on newborn medicines (Peltzer

et al., 2009). A healer in Kenya recommended that certain illnesses be treated using traditional medicine because Western medicine would be harmful (Matsuyama et al., 2013).

Home Visits

Three studies addressed postnatal home visits (Kayemba et al., 2012; Nalwadda et al., 2015; Reeve et al., 2016). Visits ranged from brief visits during the first week of life to home stays beyond the postnatal period (Kayemba et al., 2012; Reeve et al., 2016). Informal providers in Uganda were taught to perform home visits within one day, three days, and seven days after birth; only 4% of VHTs reported making more than one home visit (Kayemba et al., 2012). In rural Kenya, almost 89% of TBAs reported staying with families after delivery for a week or more; 66% stayed for at least four weeks with an average stay of 34 days (Reeve et al., 2016). The longest stay was 12 weeks. Information was not reported about the recommendations given or performed during the stays (Reeve et al., 2016).

Immunizations

Immunizations were briefly mentioned in three studies (Kayemba et al., 2012; Warren et al., 2010; Sibanda et al., 2001). At a clinic in Zimbabwe, 60% of nurses checked newborns for the Bacillus Calmette-Guerin (BCG) vaccine, however, the timing of check-ups was not reported (Sibanda et al., 2001). In Kenya, formal providers were

observed giving immunizations to newborns at various postnatal timepoints as needed; counseling was not reported (Warren et al., 2010).

Timing of Follow-Up

Two studies included findings about the timing of postnatal follow-up visits (Kayemba et al., 2012; Warren et al., 2010). Training for Ugandan VHTs included recommending routine postnatal visits at six hours, six days, and six weeks after birth (Kayemba et al., 2012). Healthcare providers in Kenya recommended follow-up visits at 6-weeks despite instruction to recommend newborn follow-up visits at 48 hours and at two weeks (Warren et al., 2010).

Other Recommendations

Two studies documented activities regarding thermal care such as newborn bathing and clothing (Kayemba et al., 2012; Sacks et al., 2015). During home visits, VHTs in Uganda counselled families on thermal care approximately 45% of the time (Kayemba et al., 2012). TBAs in Zambia reported that although newborns are usually bathed in warm or tepid water, a cold bath was performed after cord detachment as a ritual to strengthen them (Sacks et al., 2015).

Regarding prematurity or low birth-weight, one TBA reported that this was due to malaria and warranted referral. It was also believed a baby born prematurely at 6- or 7-months' gestation would be more likely survive than if born at 8 months' gestation (Mrisho et al., 2008). During home visits, VHTs asked about the newborn's birthweight

only 32% of the time (Kayemba et al., 2012). Two studies (each part of one larger study) addressed the recommendation to sleep with the baby under a bed-net (Dynes et al., 2013; Gobezayehu et al., 2014; see Table 6).

Table 6

Postnatal Newborn Care Practices Recommended or Performed by Healthcare Providers

Author (Year)/ Care Practices	**Dhingra (2014)**	**Dynes (2013)**	***Gobe... (2014)**	**Kayemba (2012)**	****Mats... (2013)**	**Mrisho (2008)**	**Nalwadda (2015)**	**Peltzer (2009)**	**Sacks (2015)**	**Sibanda (2001)**	**Reeve (2016)**	**Warren (2010)**	**Total**
Breastfeeding	X	X	X	X	X	X					X	X	8
Cord care	X			X		X			X	X			5
Treatment by TBA/traditional healer					X			X					3
Home visits				X			X				X		3
Recognition of danger signs				X	X							X	3
Referral to health facility				X			X	X					3
Immunizations				X						X		X	3
Thermal care (delay bath/dressing)				X					X				2
Sleeping with a mosquito net		X	X										2
Recognition of low birthweight						X			X				2

*Gobezayehu et al., (2014); **Matusyama et al., (2013).

Care Guidelines

Guidelines or recommendations used by providers were the *Home-Based Life Saving Skills* by the American College of Nurse-Midwives (Dynes et al., 2010a, 2013; Gobezayehu et al., 2014), the *Integrated Community Case Management* program developed by the Ugandan MOH (Kayemba et al., 2012), and the Kenyan comprehensive postnatal care package and job aids developed by the Kenyan Division of Reproductive Health, the MOH, and other global partners (Warren et al., 2010). No studies reported using the WHO's *Recommendations on Postnatal Care of the Mother and Newborn* (WHO, 2013).

Provider Training on Care Recommendations

Eight studies (66.6%) reported on levels of training for providers (Dhingra et al., 2014; Dynes et al., 2013; Gobezayehu et al., 2014; Kayemba et al., 2012; Peltzer et al., 2009; Reeve et al., 2016; Sibanda et al., 2001; Warren et al., 2010). Informal providers in Ethiopia were given study-specific training in a skills-based program for low or non-literate participants using a train-the-trainer model, however, the length of training was not specified. Although provider knowledge about advising women to rest under a bed-net with the baby for 12 days and to breastfeed for 6 months improved significantly immediately post-training (Dynes et al., 2013), knowledge retention declined at 18-months for some of the groups (Gobezayehu et al., 2014).

Formal providers in rural Kenyan clinics received 3-days of continuing education on care recommendations. Post-training, there were significant improvements in

performance of newborn assessment and counseling at the 48-hour visit but assessment of danger signs decreased with later visits (Warren et al., 2010). Kayemba et al., (2012) reported that VHT members received training on maternal, newborn, child health, and sanitation practices with some receiving an additional 6-day training on assessing, classifying, and treating sick children from 0-59 days old. Only two hours of training was provided for newborns 0-7 days old (Kayemba et al., 2012). After the training few VHTs knew the newborn danger signs or performed home visits (Kayemba et al., 2012). See Table 7.

Table 7

Characteristics of Studies Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
Dhingra et al., 2014	To explore community and healthcare provider (HCP) delivery and newborn care practices to inform future trial on cord care	Design: Qualitative Method and Sample: In-depth interviews (IDI): n= 40 traditional birth attendants (TBAs); Focus group (FGD) discussions: n = 8 hospital staff n = 8 maternal-child health staff or registered TBAs n = 24 TBAs; IDI & FDG: n = 140 mothers and family members Setting: peri-urban Pemba Island, Tanzania	Trained TBAs have training through a previous government program (unspecified); untrained TBAs are volunteer community workers	No data from formal HCPs were specifically reported TBAs described common practices: • In a ritual on the seventh day after birth, the baby is placed in a basket; water is poured on the roof and the baby is taken outside for the first time • To prevent fever, mix coconut oil with herbs from *Mchocha* tree and apply to newborn skin after bath • Protect umbilical cord from dust, flies, mosquitos and other infections by covering cord with a cloth and preventing cord from touching genitals of a newborn boy (lest the boy become impotent) • Trained TBAs recommend exclusive breastfeeding and advise against other foods • To treat cord infection, mother is asked to recall diet because what she eats may cause infection; is then asked to burn what she is eating and apply it to the cord	None reported	Good

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
Dynes et al., 2013	To measure change in knowledge after the Community Maternal and Newborn Health program of the Maternal and Newborn Health in Ethiopia Partnership (MaNHEP)	Design: Quasi-experimental two group, pre-test/posttest Sample: n = 91 paid health extension workers (HEWs) and n = 626 Guide Team (GT) members: community health development agents (CHDAs), TBAs, and wise women and men Setting: Six rural districts in the Amhara and Oromiya regions of Ethiopia.	Study-specific training using *Home-Based Life Saving Skills* training on *Preventing Problems Before the Baby is Born and Preventing Problems After the Baby is Born* (length of training unspecified) HEWs have one-year of government-provided baseline training with 16 health modules that includes skills-based training for low or non-literate participants *training of other HCPs not specified CHDAs have minimal and	**Advising exclusive breastfeeding (EBF) for at least 6 months:** Immediate posttest scores significantly higher than pretest scores for HEWs/GTs but not in the Oromiya region **Rest with baby under bed net for at least 12 days:** Immediate posttest scores significantly higher than pretest scores for all HCPs in the Amhara and Oromiya regions	*Home-Based Life Saving Skills* (American College of Nurse-Midwives)	Good

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
			variable levels of newborn health training; TBAs have no formal training, skills obtained from older generations			
Gobezayehu et al., 2014	Extension of Dynes et al. (2013). To measure retention of knowledge and performance of skills from immediate posttest to 18-months after the Community Maternal and Newborn Health training program of the Maternal and Newborn Health in Ethiopia Partnership (MaNHEP)	Sample: n = 75 paid HEWs and n = 638 GT members	See Dynes et al. (2013)	**Advising exclusive breastfeeding (EBF) for at least 6 months:** In the Amhara region, 18-month posttest scores for HEWs significantly higher at 18-months than immediate post-training; scores for CHDAs were significantly lower, and no significant difference in TBAs Oromiya Region: No significant differences between any groups at 18-month posttest **Resting with baby under bed net for at least 12 days:** Amhara Region: At 18 months posttest, HEWs had no significant difference; CHDA scores significantly lower; TBAs significantly lower Oromiya Region: Only HEWs had significant differences between scores	See Dynes et al. (2013)	Good

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
Kayemba et al., 2012	To assess how volunteer village health team (VHT) members, caregivers, and other stakeholders use Integrated Community Case Management (iCCM) guidelines to address newborn care from 0-59 days of life	Design: Descriptive cross-sectional, mixed methods Method and Sample: Survey, IDI & FGD: n = 460 VHT members; n = 12 facility in-charges n = 1 midwife n = 4 district personnel in charge of iCCM Setting: 3 midwestern, peri-urban districts in Uganda	Baseline VHT training: encourage facility-based follow-up care at 6 hours, 6 days, and 6 weeks after birth; conduct home visits on days 1, 3, and 7; identify danger signs; advise on EBF, thermal care, cord care, vaccines; extra support for small babies. Additional 6-day didactic/practical training in iCCM to assess, classify, and treat sick children with a newborn preventive component. Topics included EBF, recognition of small babies and give extra care; wash hands before EBF or	**Exclusive Breastfeeding:** 67% promoted exclusive breastfeeding **Thermal Care:** 45% mentioned counseling on thermal care of the newborn **Danger Signs:** 87% could name 3 or more danger signs (but not always the signs that predict severe illness: • 81% knew infected cord • 68% knew skin rash • 43% knew poor feeding **Practices:** • 99.8% reported that they would refer a sick newborn to a health facility • 65% assessed newborn's skin/cord/danger signs • 38% counseled on hygiene practices • 38% asked the birthweight • 14% asked the date/time of delivery • 4% reported repeat home visits for newborn care • 9% advised mothers on prompt care-seeking	Ugandan iCCM program (developed from Uganda Newborn Survival Study and other global evidence	Good

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
			handling the baby; cord care; home visits at days 1, 3 and 7 of life; actively assess for sick newborns. No training levels were identified for formal healthcare providers or administrators			

Matsuyama et al., 2013	To explore the perceptions and feeding practices of caregivers of infants under 6 months old and care-seeking behaviors that affect feeding practices	Design:
		Qualitative
		
		Method and Sample:
		IDIs and in-home observations with
		n = 2 TBAs;
		n = 4 traditional healers;
		n = 1 nurse;
		n = 27 family members
		
		Setting:
		Peri-urban Kenya
			Not reported	Beliefs and Practices for Illnesses:
				Nyuni - Newborns get rolling eyes and fits if their mother is possessed by an evil spirit, if the baby is seen by an eagle, or if the baby hears the call of an eagle. Traditional healers advise against taking baby to hospital to get chloroquine for infection or an injection because they will die. Healer will perform a ritual by sacrificing chickens and giving newborn herbal medicines.
				Kivaduro - serious coughing caused by cold weather. Traditional healers give herbal medicine.
				Dzongo - stomachache, swelling of stomach caused by evil eye. Happens
					None reported	Fair

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
				if the baby swallows breastmilk at the same the person giving the evil eye swallows their saliva; not a serious problem, give herbal medicine.		
Mrisho et al., 2008	To describe home-based newborn care practices in rural Tanzania	Design: Qualitative Methods and Sample: 40 IDIs; 16 FGDs with 6-8 women per group from 8 villages who were pregnant or recently delivered (n = 96-128); IDI with a TBA from each village: n = 8 Setting: 8 villages in rural Tanzania	Not reported	Breastfeeding: Colostrum is not suitable for a newborn because it is dirty. The newborn is fed sweetened water for 2-3 days until the dirty milk is gone Cord care: Most newborns referred to health facilities to heal the cord; breastmilk and fluids from pumpkin flowers are used to heal cord Recognition of low-birth weight: A baby less than 9-months gestation is premature; mother is instructed to take newborn to the hospital. Usually a result of maternal malaria. Newborn survival: A child born at 6 or 7 months gestation can survive. A child born at 8 months gestation rarely survives because it is turning in-utero at this time and is likely to get stuck if facing sideways	None reported	Fair

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
				Visitors for the newborn: Seclusion is practiced for 40 days because bad people can harm the mother or child through witchcraft		
Nalwadda et al., 2015	To describe sociocultural barriers and facilitators of newborn referral	Design: Qualitative Method and Sample: Interviews with TBAs: n = 3; mothers with a sick child n = 8; FGDs with family caregivers: n = 60-120 Setting: Rural and peri-urban villages in Uganda	Training of TBAs not specified	**Referral of sick newborns to healthcare facility:** TBAs believe their responsibility ends at delivering newborn and that CHWs are responsible for referrals	None reported	Fair
Peltzer et al., 2009	To assess traditional health practitioner (THP) role in Prevention of Mother to Child Transmission (PMTCT) regarding HIV, pregnancy care, delivery, and infant care	Design: Qualitative Methods and Sample: Individual semi-structured interviews with n = 181 postnatal mothers, 54 TBAs and 47 herbalists/diviners Setting:	26 TBAs received training from their mother, 16 from their grandmother, 10 from another relative; 2 were self-trained	**TBAs & THP postnatal behaviors:** • 17% got a protection belt (not described) for the baby • 17% gave advice on what to feed the baby after delivery • 11% gave herbs/medication (not described) to baby after delivery) • 8% advised a health check-up at a public health service • 7% advised on baby bath and cleaning cord (not described)	None reported	Fair

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
		peri-urban, Eastern Cape, South Africa		• 7% gave advice on baby care **TBA postnatal behaviors:** 77% of TBAs conducted a postpartum home visit (newborn content not described) **Herbalist/Diviners' postnatal behaviors:** (frequency of behavior not specified) • Conducted newborn home visit to check on mother and newborn • Providing advice on breastfeeding • Advised on referrals to clinic • Advised on medicines for newborn for protection or ingestion		
Reeve et al., 2016	To describe the knowledge, attitudes, and practices of TBAs serving semi-nomadic pastoralist communities for potential collaboration with skilled birth attendants	Design: Descriptive cross-sectional Sample: 171 TBAs Setting: Maasai and Samburu pastoralist communities in rural Kenya	7% had attended school; 22% had received any training from a formal HCP, mostly from nurses at public health facilities	**Feeding:** Although 97% advised exclusive breastfeeding, in contradiction to this, 18% advised giving newborns other substances in the first weeks of life **Home visits:** 89% of TBAs stayed with mother and newborn for a week after delivery	None reported	Good

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
				66% stayed for at least 4 weeks (the longest reported stay was for 12 weeks)		
Sacks et al., 2015	To report TBAs' postnatal skin, thermal, and cord care practices	Design: Qualitative Methods and Sample: Interviews with n = 6 trained and n = 6 untrained TBAs Setting: Villages 5 km and 15 km from the local hospital	Not specified	**Thermal care** (bathing): • Newborn must be bathed quickly because the fat (vernix) has the HIV virus and seeps into the skin • If the baby wakes up at night and shivers, they should be bathed in cold water to stop the shivering. It is good training for the baby and will make him strong (more common for term male newborns) **Thermal care** (clothing): • Newborns should wear hats at all times (except for baths) because they breathe through their fontanel for 1.5 years. If it closes too soon, the baby will suffocate and die **Recognition of small babies/care**: • Newborns are preterm if it is born before the mother has missed 9 menstrual cycles. Premature babies are wrapped and baths are delayed unless mother is HIV positive. Bathing too early will cause them to lose their skin; the fat is good for them to get into their skin.	None reported	Good

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
				Cord care: • Breastmilk can be placed on the cord but the breast should not touch the stump of the cord, nose, or genitalia of the newborn (milk should be expressed and dripped on the body part) lest the baby becomes impotent • When cord stump falls off, mother and baby should bathe in cold water to make them strong. An older sibling is called to carry baby on their back (girls strap girl newborns, boys strap boy newborns). Boys will take the baby to cut down a small tree with an axe and girls will take the baby to fetch water. This shows the new baby how to be a good man or wife. This is the first time the baby is taken outside. • TBA feels confident to stop visiting one cord falls off		
Sibanda et al., 2001	To describe women's attendance at postnatal care (PNC), factors that influence attendance, the	Design: Mixed methods study with cross-sectional survey, IDIs and FGDs. Sample:	Of the 10 nurses, only one midwife had not received maternal-child health (MCH) and family	**Postnatal care visit:** 6 nurses believed two-weeks is the best time for a PNC visit, as that is when the most complications occur. **Postnatal practices:**	None reported	Poor

Table 7 (continued)

Study Author, Year	Study Aim	Design, Sample, Setting	Training of HCPs in Sample	Healthcare Providers' Postnatal Newborn Practices Identified Beyond 24 hours of Life	Guidelines used by HCP	Study Quality
	quality of services, and traditional or cultural practices related to postnatal care	n = 296 mothers; n = 112 elderly women from the community; and n = 10 nurses, 7 of whom were midwives Setting: peri-urban Zimbabwe	planning training (FP)	100% of nurses performed a newborn exam 60% gave immunizations 60% checked the newborns' Bacille Calmette Guerin scar 50% performed a cord check		
Warren et al., 2009	To assess changes in quality of care following the introduction of a new postnatal package of services	Method: Quasi-experimental, single group, pre- and posttest Method and Sample: observations of patient-provider interactions with mothers 0-6 weeks postpartum; n = 249 observations Setting: Four healthcare facilities in rural Kenya	Study-specific 3-day training for staff and supervisors	**Newborn danger signs:** After the intervention, the amount of HCPs interactions observed asking mothers about newborn danger signs increased significantly in the areas of: difficulty breathing, Baby feels too hot or cold Providers observed counseling on: breathing difficulty, feeding difficulty, temperature control, feeding, EBF, Provider administered polio, hepatitis B, and diphtheria, pertussis, and tetanus vaccines	Kenya comprehensive postnatal care package and job aids developed by the Division of Reproductive Health, Ministry of Health, Access Family Planning/Johns Hopkins Program for International Education in Gynecology and Obstetrics (Jhpiego) & FRONTIERS/ Population Council	Good

DISCUSSION

Newborn mortality during the early to late postnatal period has improved in most regions however, it remains a concern in sub-Saharan Africa. Although there were a small number of studies, 58% were published in the last five years, representing interest in addressing newborn health across the full postnatal period.

Most studies focused on individual topics such as breastfeeding and other feeding practices, cord care, or a combination of recommendations such as skin, cord, and thermal care. No study reported on all recommendations. For example, although formal and informal providers frequently recommended breastfeeding, no study documented information being given beyond the immediate or early postnatal period. In studies focused only on newborn feeding, management of breastfeeding complications, breastfeeding for 6 months, or addressing traditional beliefs was not mentioned. Recommendations that substances be applied to the cord and about timing of postnatal follow-up examinations were not consistent with guidelines. Few studies reported on referral of small newborns for additional care, a concerning finding given that half of all newborn deaths are due to prematurity and low-birthweight, with many babies born at home. No studies mentioned re-weighing the newborn beyond birth. Although there are barriers that may limit future research on multiple newborn care recommendations, the priority recommendations that may prevent neonatal mortality pertain to research on the timing of appropriate follow-up visits, recognition of danger signs, and timely care-seeking with licensed providers.

In these studies, baseline training of formal and informal providers on postnatal newborn care recommendations was minimally documented. Informal healthcare workers provided most postnatal care counseling. Only one study provided training on most newborn care recommendations and reported on informal provider knowledge of the recommendations. Knowledge of most danger signs was low and interventions did not sustain improved knowledge and practice. Sacks & Langlois (2016) report that improving the quality of the formal healthcare system through education may improve newborn health and women's engagement with the formal healthcare system, and lower costs throughout the maternal-child care continuum. Further, although most sub-Saharan Ministries of Health provide country-specific guidelines, this review found use of guidelines was minimally reported. To begin, research should assess providers' knowledge and use of guidelines and whether formal and informal training includes use of the guidelines.

Many studies coupled postnatal newborn care with postpartum maternal care or limited care to the early postnatal period. Maternal and newborn health are inextricably linked and there is urgency to improve postnatal maternal health, however, studies that report on both maternal and newborn health may have placed less emphasis on newborn health interventions.

The variety and skill-mix of formal and informal providers presents both a challenge for delivering standardized and evidence-based recommendations as well as an opportunity to improve newborn health. The lack of studies with formal providers suggests that many women seek informal or traditional providers, a similar finding in

other studies (Montagu et al., 2011; Sacks & Langlois 2016). Postnatal care and treatment of newborn illness by TBAs and traditional healers was common and sometimes preferred over Western medicine. Further, the majority of studies that included both providers did not differentiate formal providers' roles, which may lead to role confusion and missed service provision. This suggests the possibility of ambiguity or fluidity in using formal or informal providers to seek care; healthcare provider role confusion in sub-Saharan Africa has been addressed elsewhere in the literature (Seboni et al., 2013). Therefore, opportunities for TBAs and healers to partner and collaborate with the formal healthcare system to improve postnatal newborn health in sub-Saharan Africa should be explored. Guidelines that delineate what is appropriate for an informal provider and a formal provider may help to reduce confusion.

These findings regarding healthcare providers are comparable to other regions with high neonatal mortality that report low thresholds of provider knowledge on postnatal newborn care. For example, a study in Yemen reported that skilled providers scored only 17.2% on questions related to counselling mothers on newborn care (Ba Saleem et al., 2017). In a study in Nepal, 69% of nurse-midwives reported poor knowledge levels regarding newborn care (Acharya & Paudel, 2015).

IMPLICATIONS FOR NURSING AND HEALTH POLICY

Global strategies to decrease newborn mortality during the postnatal period encourage use of skilled healthcare providers throughout the antenatal-postnatal continuum (PMNCH, 20011; WHO, 2018a). In sub-Saharan Africa, select governments have instituted universal healthcare for mothers and newborns to increase skilled care-

seeking. Nurses provide most counseling on newborn care recommendations to caregivers in these settings however, investments in workforce capacity to manage additional newborns in the public healthcare system is sub-optimal (WHO, 2007b). In all settings where there is limited formal healthcare provider capacity, informal providers may be needed to assist in follow-up and counseling families on newborn care. Further, use of collaborative networks or task-sharing between formal and informal providers may be particularly advantageous in settings where there are strong ties to the community. Therefore, policy makers across diverse sectors including Ministries of Health, local government, nursing, and education should prioritize formal and informal provider knowledge of and use of evidence-based recommendations. Nurses are well-positioned to lead such a collaboration because of their training that emphasizes evidence-based health promotion between the facility and community settings. This role is under-researched.

LIMITATIONS

Research designs for the studies were not rigorous (e.g., pre-test/post-test only with no comparison group) and many studies were of fair or poor quality because of small provider sample sizes. Some postnatal newborn practices may not be captured.

CONCLUSIONS

In sub-Saharan Africa, postnatal newborn care recommendations are provided to caregivers by both formally- and informally-trained healthcare providers. Knowledge and counseling regarding the recommendations vary widely and may exclude important recommendations. Key recommendations have been overlooked and require further study

for implementation. Additional research on formal and informal healthcare provider training, knowledge, dissemination, and collaboration on recommendations in facility and community settings is needed to drastically improve newborn health in sub-Saharan Africa and other regions facing similar concerns.

End of Manuscript

SUMMARY

This chapter provided an overview of the burden of neonatal mortality in Kenya. Then it presented the available newborn care recommendations endorsed by the MOH and the limited postnatal health indicators tracked by the KNBS that demonstrate the urgent need to explore decreased uptake of postnatal newborn care recommendations in Kenya. The overview of government and MOH policy measures outlined key strategies that seek to improve newborn health, including the removal of user fees to increase access to care, improve training for immediate newborn health concerns, and increasing health system capacity, particularly for nurse-midwives who form the bulk of Kenya's formal healthcare providers.

The overview of the new health system and subsequent policy strategies provided a significant amount of evidence to support further study of the postnatal newborn care recommendations that nurse-midwives provide to family caretakers, and justifies an exploration of the factors that may influence the content and provision of the care recommendations.

Finally, the integrative review provided evidence that healthcare provider knowledge and counseling to family caretakers on postnatal newborn care in sub-Saharan Africa is irregular, and that the majority of postnatal newborn care is provided by informal healthcare providers with limited training. Providers use of postnatal care guidelines was minimal.

Chapter three will detail the methods of the study that was conducted.

Chapter Three: Methods

This chapter describes the methods that were used to conduct the study. The study design, setting, sampling and recruitment, measures, rigor, procedures, protection of human subjects, and data analysis plan is presented.

DESIGN

This was a descriptive, qualitative case study that adapted methods from rapid ethnographic assessment (Bentley et al., 1988; Trotter, Needle, Goosby, Bates, & Singer, 2001) and focused ethnography (Higginbottom, Pillay, & Boadu, 2013; Roper & Shapira, 2000) to collect data from two institutions to describe the postnatal newborn care recommendations provided by nurse-midwives to mothers and caretakers in Eldoret, Kenya. The study also collected data on how the recommendations are provided and explored the factors that may influence the content and provision of the recommendations.

Ethnography

Ethnography is an anthropological research method primarily used to study a group of people in their natural environment in order to describe the behaviors, beliefs, and lifeways of a culture (Roper & Shapira, 2000). Traditional ethnography uses research methods such as participant observation, interviews, and the examination of relevant documents to systematically collect data over an extensive period of time from multiple sources of emic (insider) knowledge and perspectives (Roper & Shapira, 2000). The

researcher then blends the emic knowledge with etic knowledge (what is known about the phenomena) to make sense of what they observe or hear (Higginbottom et al., 2013; Roper & Shapira, 2000).

Focused Ethnography

Focused ethnography is an applied ethnographic method that uses traditional ethnographic methods of participant observation, interviews, and the examination of relevant documents to collect data, however, this type of ethnography focuses on a certain problem or phenomenon in a small but distinct group of people that share similar characteristics in the target setting rather than a larger community (Roper & Shapira, 2000). According to Higginbottom et al., (2013), characteristics of a focused ethnography include that the study:

- has a clear focus on a community, organization, or social phenomena;
- is problem-focused and context-specific;
- has a limited number of participants with specific knowledge of the culture or phenomenon;
- is used in academia or the clinical healthcare setting and;
- includes intermittent participant observation.

In traditional ethnography, broad cultural phenomena are observed and experienced; the researcher should have minimal knowledge of the phenomena prior to entering the field (Roper & Shapira, 2000). Focused ethnography differs from traditional ethnography because in a focused ethnography, the researcher has a predetermined

understanding of the phenomena prior to entry into the study setting. Such an understanding may be obtained by completing a literature review a priori (Germain, 2001; Roper & Shapira, 2000). In addition, the researcher may also bound the study using conceptual underpinnings to develop the research questions and guide study of the phenomenon within a specific setting or population (Cruz & Higginbottom, 2013). Another key difference is that during a focused ethnography, the researcher purposively seeks out the study site and limits sampling to specific locations, activities, persons, and documents that are likely to be rich sources of data to answer the research questions (Higginbottom et al., 2013). This differs from traditional ethnography where the researcher presents to the setting, observes what is being done, and asks the participants about the inherent meanings regarding what they see. Meaning comes directly from the participants because the researcher has limited previous knowledge of the phenomenon and a liberal timeframe for the study (Roper & Shapira, 2000). Finally, data analysis occurs concomitantly with data collection in an iterative and cyclical process as the researcher begins to form inductive conclusions to answer the focused and specific research questions (Guest, MacQueen, & Namey, 2012; Higginbottom et al., 2013).

Rapid Ethnographic Assessment

Rapid ethnographic assessment (REA) is variant on the rapid assessment process methods of Scrimshaw and Hurtado (Bentley et al., 1988). As such, it is particularly useful for data collection in settings where there are stubborn health concerns, where locally salient emic data is needed to understand and inform nuanced interventions that

address the concern in a specific study setting, and where time is a barrier to conducting more extensive ethnographic study (Bentley et al., 1988). REA has been endorsed by several global health organizations and has been used to conduct cross-cultural research (Bentley et al., 1998; Trotter et al., 2001). Use of REA was appropriate to guide data collection and the subsequent data analysis within this focused ethnography because of the limited amount of time that the researcher was present in the field. Use of REA as the sole method for this study was not possible because it requires intensive team-based work and lacks specific research questions (Higginbottom et al., 2013).

The methods of focused ethnography and rapid ethnographic assessment were blended for this study because the study objectives were to examine a specific phenomenon and explore the potential factors in the natural environment that influenced the phenomenon in a selected population at specific research sites. The formulation of the research questions was guided by an orienting framework that bounded the phenomenon and the research questions were posited prior to the researcher's entry into the field. To collect data, the researcher performed intermittent participant observation, conducted semi-structured interviews, and collected relevant documents. Because of the short time period in which to conduct the study, the researcher used rapid ethnographic assessment techniques, such as purposive and graduated site-based sampling, to maximize the richest sources of data and to strategically guide iterative data collection and inductive data analysis within the limited time-frame.

SETTING

This study was conducted at two field sites, the Moi University School of Nursing (MUSoN) and the Riley Mother Baby Hospital Kenya (RMBHK) in Eldoret, Kenya from November 16 to December 18, 2018. Eldoret is located in Uasin Gishu ("Wa-shun Gee-shu") County on the Uasin Gishu Plateau, west of the Great Rift Valley in Western Kenya (see Figures 4 & 5; "Eldoret, Kenya" n.d.). It is approximately 330 kilometers northwest from the capitol city of Nairobi and is situated at an elevation of 6,857 feet above sea level ("Eldoret, Kenya" n.d.).

Although Eldoret was originally inhabited by the Sirikwa, Masaai, and Nandi tribes, no single tribal group or ethnic mix dominates this area (see Figure 6; Uasin Gishu County, n.d.[b]). Eldoret became an official town in 1908 with the settlement of European colonizers and Asian traders (Uasin Gishu County, n.d.[b]).

Figure 4. Map of Kenya in Africa
(World Atlas, n.d.).

Figure 5. Map of Eldoret in the Rift Valley, Kenya (Maps of the World, 2012).

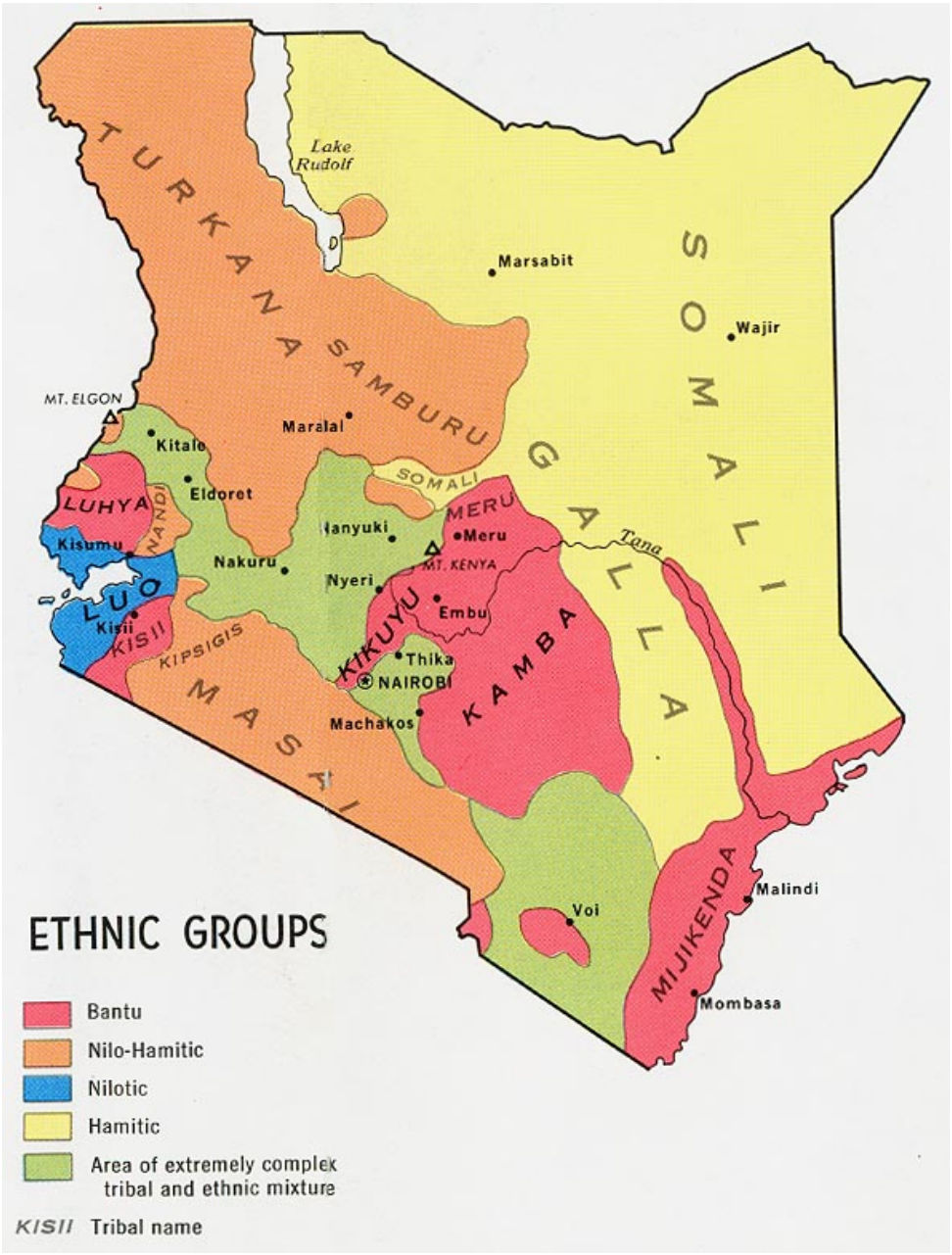


Figure 6. Ethnic groups in Kenya
(United States Central Intelligence Agency [USCIA], 1974).

Eldoret is the fastest growing city in Kenya, with a population of 252,061 in 2009 and it remains an important business hub in Western Kenya ("Eldoret, Kenya" n.d.; Uasin Gishu County, n.d.[a]). Agriculture is an important part of the local economy where corn (maize), wheat, and potatoes are the three largest cultivated crops (Uasin Gishu County, n.d.[a]). Additionally, major industries in Eldoret include flour-milling, food processing such cheese-making, cattle farming, a large international flower market, and sports tourism associated with long-distance running (Uasin Gishu County, n.d.[a]).

In Kenya, 36.1% of the population lives below the poverty line (USCIA, 2016) and the unemployment rate is 40% (USCIA, 2013). The main languages in Kenya are English and Kiswahili, although a number of other local languages and dialects are used (USCIA, n.d.).

Moi University, College of Health Sciences, and the School of Nursing

The Moi University School of Nursing (MUSoN) is part of Moi University and operates under the College of Health Sciences (Moi University, n.d.). Moi University was established in 1984 as the second publicly-funded university in Kenya and was the first university to focus on science, technology, and development in rural areas (Moi University, n.d.). The university enrolls 50,000 students and supports 3,000 faculty and administrative personnel within various colleges throughout Kenya (Moi University, n.d.). The Moi University College of Health Sciences (MUCHS) was established in 1989 and offers baccalaureate and graduate degrees within the schools of medicine, public

health, dentistry, and nursing (Ayuo, n.d.). The MUCHS enrolls approximately 2,000 students with 170 faculty (Ayuo, n.d.).

The Moi University School of Nursing (MUSoN) began in 1998 under the College of Health Sciences. Today it consists of three departments: Midwifery and Gender with nine faculty members; Child, Adult, and Mental Health Nursing with seven faculty members; and Community Health, Nursing Administration, Education, and Research with four lecturers (Chelagat, n.d.). The department of Midwifery and Gender collaborates with national and international partners to focus on a curriculum that aligns with achieving the Sustainable Development Goals (Milimo, n.d.). In 2006, the School of Nursing introduced the Master of Science in Nursing degree in Maternal and Neonatal Health, which provides advanced training in clinical skills, research, and advocacy in the areas of midwifery and neonatal nursing (MUCHS, n.d.). The Master's program has had ten graduates (MUCoHS, n.d.). There are approximately 200 students enrolled in the baccalaureate program in nursing (D. Chelagat, personal communication, October 16, 2018).

Riley Mother Baby Hospital of Kenya

The Riley Mother Baby Hospital of Kenya (RMBHK) is a three-story, 75,000 square foot hospital that opened in 2009 as part of the Moi Teaching and Referral Hospital (MTRH) system, which is the second largest referral system in the country (RMBHK, n.d.[a]). As the area's only acute care, tertiary-level referral hospital system, MTRH/RMBHK serves approximately 13 million people in the catchment area of

Western Kenya (see Figure 7; RMBHK, n.d.[a]). The RMBHK is dedicated to the reproductive health needs of women and the care of their newborns with approximately 20,000 babies born there annually (see Figure 8; RMBHK, n.d.[b]). At the RMBHK, the main site of data collection was in the postnatal ward (PNW), however, the researcher also observed relevant events in and around the area of the PNW, RMBHK, and MTRH.

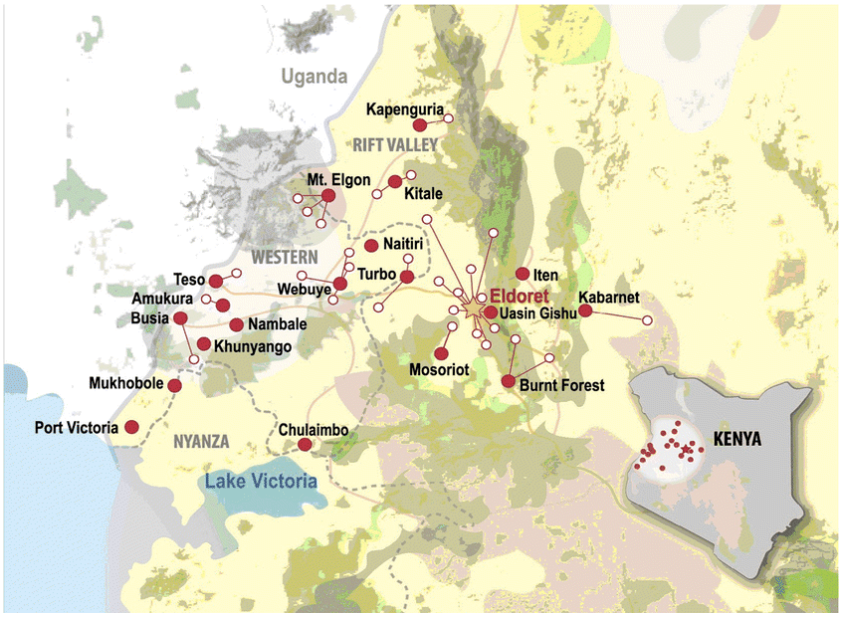


Figure 7. Area of Western Kenya served by Riley Mother Baby Hospital Kenya (Tierney et al., 2013).

Figure 8. Riley Mother Baby Hospital Kenya (RMBHK[b], n.d.).

Overview of the Postnatal Ward

The postnatal ward (PNW) of RMBHK consisted of the (1) caesarean-section (C-Section) and complications of spontaneous vertex delivery ward on the second floor of the RMBHK and; (2) the spontaneous vertex delivery (SVD) ward on the third floor of the RMBHK. Nurse-midwives on the C-Section ward cared for mothers who had delivered via C-Section and mothers who had complicated vaginal deliveries. The average daily census of the C-Section PNW was 50 mothers and approximately 30 term, well-babies. The nurse-midwives on the SVD ward cared for mothers who had uncomplicated vaginal deliveries and also oversaw the mothers being in the *hostels*. The average census of the SVD PNW was approximately 100 mothers. Of the 100 mothers, approximately 25 were newly delivered mothers with their term, well-babies. The other 75 were mothers who had sick infants in the newborn unit (NBU) and were housed in the hospital to be close to their babies (in the *hostel)*. All newborns in both PNWs were deemed to be term. Because there was no well-baby nursery at RMBHK, all well-newborns stayed with their mothers in the same adult bed on the wards. Small (<2,500 grams) or sick newborns were separated from their mothers and went to the newborn ward (NBU) while their mothers stayed on the PNW to recover (N. Rotich, personal communication, November 17, 2018).

Physical Layout - C-Section Ward

The C-Section PNW consisted of six patient rooms, a nurses' office, a patient shower room and bathroom, a soiled utility room, and a staff bathroom. Each patient room had six beds, a counter along the back of the room with two sinks and mirrors, and windows above the counters. A plastic table and chair was placed in front of the counter. The office was across from Rooms 3 and 4. In the hallway there were three cabinets to store medical supplies and linens. Medication carts were stored in a short breezeway by the office (see Figure 9).

Physical Layout - SVD Ward

The SVD PNW was on the third floor of RMBHK and consisted of five patient rooms with six beds in each room, a nurses' office, a counseling room, patient shower and bathroom facilities, a soiled equipment room, and a staff bathroom. Four of the rooms were known as "*hostel*" rooms which provided accommodation for mothers who had newborns in the NBU. Only one room (Room 3) was used for mothers who had recently delivered via SVD. Like the C-Section PNW, all patient rooms had two sinks in the back counterspace but there was no desk or chair in the patient rooms.

Major differences in the physical layout between RMBHK and a typical U.S. hospital include that the nurses' station was in an office instead of an open

nurses' station, there was no separate break room apart from nurses' station for the staff, all patients shared a bathroom with shower stalls and toilets, and there were no single patient rooms except for the isolation room that was down the hall and away from the PNW. Patient meals were served in the hallway and mothers would come into the hallway with their own plates and cups to get meals that were provided by the hospital three times a day.

Figure 9. Hallway of C-Section PNW
(November, 2018. Photo credit: D. Reid).

General Workflow of the Postnatal Ward

On a typical dayshift in the PNW, four beside nurse-midwives, one nurse-midwife in-charge, and one nurse-midwife assistant in-charge would report on duty between 0700 – 0730 (military time). Three of the bedside nurse-midwives would be allocated to the C-Section ward and one would be allocated to the SVD ward. At 0730, they would present to their assigned rooms and receive report at the bedside of each patient from the night shift nurse-midwife who had their assignment. Each shift gave report from the *Bedside Shift Report Log*, where they would log and review each patient, their diagnosis, their current disposition, current doctor's orders, and tests, investigations, or follow-up scheduled for that day. For example, on the postnatal C-Section ward, the typical stay for a post-operative mother was two to three days, depending on their condition. Fresh post-operative mothers were on a liquid diet while others had progressed to a soft diet and others had progressed to a normal diet. Other mothers were due to have their urinary catheters removed, needed lab work or blood transfusions, wound debridement, or assistance to establish lactation.

After report, both the night- and dayshift nurse-midwives would go to the nurses' office for '*prayers'* that were similar to morning announcements. During this time, the nurse in-charge, the nurse assistant in-charge, the nurse-midwives, and the student nurse-midwives who were assigned to rotate in the postnatal ward would listen to the nightshift nurses' report of patient census, number of

admissions, number of discharges, number of newborns immunized, and if there were adequate supplies overnight. They would also discuss any incidents or issues that occurred. On a certain day of the week during '*prayers,*' the staff would also receive continuing education specific to the ward. For example, one morning a student presented the 23 steps of performing tracheostomy care. Educational presentations, their content, and attendance were recorded in a logbook so that staff who were absent could review it. During this time, staff would also care for the welfare of their coworkers. For example, two staff members had family members pass away during the time of the study. Both administrative and bedside nurse-midwives donated 500 Kenyan shillings (Ksh); approximately $5 USD (Bankrate.com, 2018) each to the staff members who had lost loved ones. One of the staff members told the researcher, "we always do that to support each other. You never know, next time it could be you who is the one in need." At the end of '*prayers,*' the nurse in-charge would request a volunteer to offer a prayer for the day and a student or bedside nurse-midwife would say a short prayer. Usually this announcement time lasted approximately 15-30 minutes, however there were times when it lasted for 45 minutes if there were multiple issues to discuss. During the '*prayers,*' the nutritionist (dietician) and clinical officer interns would come into the office to put their personal bags in the overhead cupboards.

After '*prayers,*' the student nurse-midwives would go to their assigned rooms to complete bedmaking and assist patients with personal hygiene needs.

Some bedside nurse-midwives would follow the students and others would stay in the office talking to other staff members or the in-charge, if needed. The nightshift nurse-midwives would change into their street clothes and leave. Night shift was from 1830 the day before until the end of '*prayers*.' Dayshift was from 0730-1900. Almost all the bedside nurse-midwives rotated between nightshift and dayshift, and their hours were calculated monthly. Therefore, if they came an hour late one day, they were permitted to come an hour early the next day to ensure they met their monthly hours.

The nurse-midwife in-charge and the assistant nurse-midwife in-charge of the PNW were responsible for daily administrative tasks such as assigning staff and student nurse allocations, coordinating admissions from the labor ward, creating the schedule, disseminating information from the hospital administration, submitting daily reports, managing supplies, and handling patient complaints; they did not have patient assignments. There was also a patient assistant, shared between the antenatal, labor, and postnatal wards, who was responsible for stocking supplies and helping to clean equipment.

Workflow of the C-Section Ward

On the C-Section ward, each bedside nurse was a part of Team A, B, or C. Each day a nurse from each Team was assigned to take care of the same rooms for approximately one month, which was the duration of the nurses' 4-week schedule. The bedside nurses would be assigned by the nurse in-charge or the assistant

nurse in-charge to two rooms. For example, the nurse from Team A would always be allocated to take care of patients in Room 1 and 2 every time she worked until her Team was rotated to another set of rooms.

Room 1 was the High-Risk Room, where each mother had her own bed due to her higher level of acuity. Some mothers had tracheostomies for respiratory support and were unable to perform activities of daily living such as eating, bathing, and toileting. Others had cancer, were injured from motor vehicle accidents, or needed frequent blood transfusions due to chronic anemia. The mothers in Room 1 no longer had their newborns with them; because their health needs required prolonged hospitalization or total nursing care, their newborns had been taken home shortly after birth by relatives.

The rest of the C-Section PNW consisted of Rooms 2-6. At any given time, there were up to two mothers sharing one bed, each with her baby or babies (in the case of twins), at the same time. Room 4 was reserved for mothers who had vaginal deliveries but experienced complications such as bleeding or infections, however, these mothers did not share a high acuity status like mothers in Room 1 (see Table 8).

Table 8

Maximum Number of Patients Per Room on the C-Section Ward.

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6
Acuity	High	Moderate	Low	Moderate	Low	Low
Mothers	6	12	12	12	12	12
Babies*	0	12	12	12	12	12
Nurse:Patient Ratio	1:30		1:48		1:48	

*Number of babies does not account for multiples.

The bed capacity of the C-Section ward was 35 beds. Ideally, each adult bed would have a mother and her newborn, however the maternal patient census usually ranged from 44-60 so mothers and newborns shared beds with other mothers and their babies when the census exceeded the bed capacity.

At 1000, the nurse-midwives and students took maternal vital signs using an automated blood pressure machine, which also provided the pulse rate. Vital signs were to be done every four hours at 1000, 1400, 1800, 2200, 0200, and 0600. They also administered scheduled medications. Most times the students took the vital signs for all the mothers and then reported them to the nurse-midwife before documenting them. In Room 1, the nurses took vital signs on all the mothers because of higher patient acuity although the students could observe as part of their learning. During this time, the nurse-midwives also gave mothers group health messages, collaborated with the medical team on patient care, prepared the medication administration sheet (called a "*treatment sheet*" or "*t-sheet*") for the medical team to order medications during rounds, and reviewed and carried out the medical orders that had been written for the day. They also

took the t-sheets to the pharmacy on the ground floor so that the medications orders could get filled and arrive in time to be given that afternoon.

After taking vital signs, passing out medication, and documenting, the nurse-midwives took a tea break in the ward office. Although visiting hours began at 1300, caretakers (spouses, family, and friends) would start to come at 0800 to help the mothers to care for themselves and the newborn. The workflow plan stated that discharges could occur anywhere from 1130-1800 (see Figure 10). During this time, the nurses also took a lunch break, took maternal vital signs again at 1400, went to pick up the in-patient medications from pharmacy, administered blood transfusions, passed out medications at 1500, followed up on lab results, transported patients for diagnostic testing, continued to supervise the student nurse-midwives, and completed documentation. At any time during the shift, nurse-midwives would also retrieve and transport post-operative mothers who had delivered via C-Section and bring them and their newborns to the C-Section PNW for admission. There were approximately ten C-Sections in a typical 24-hour period.

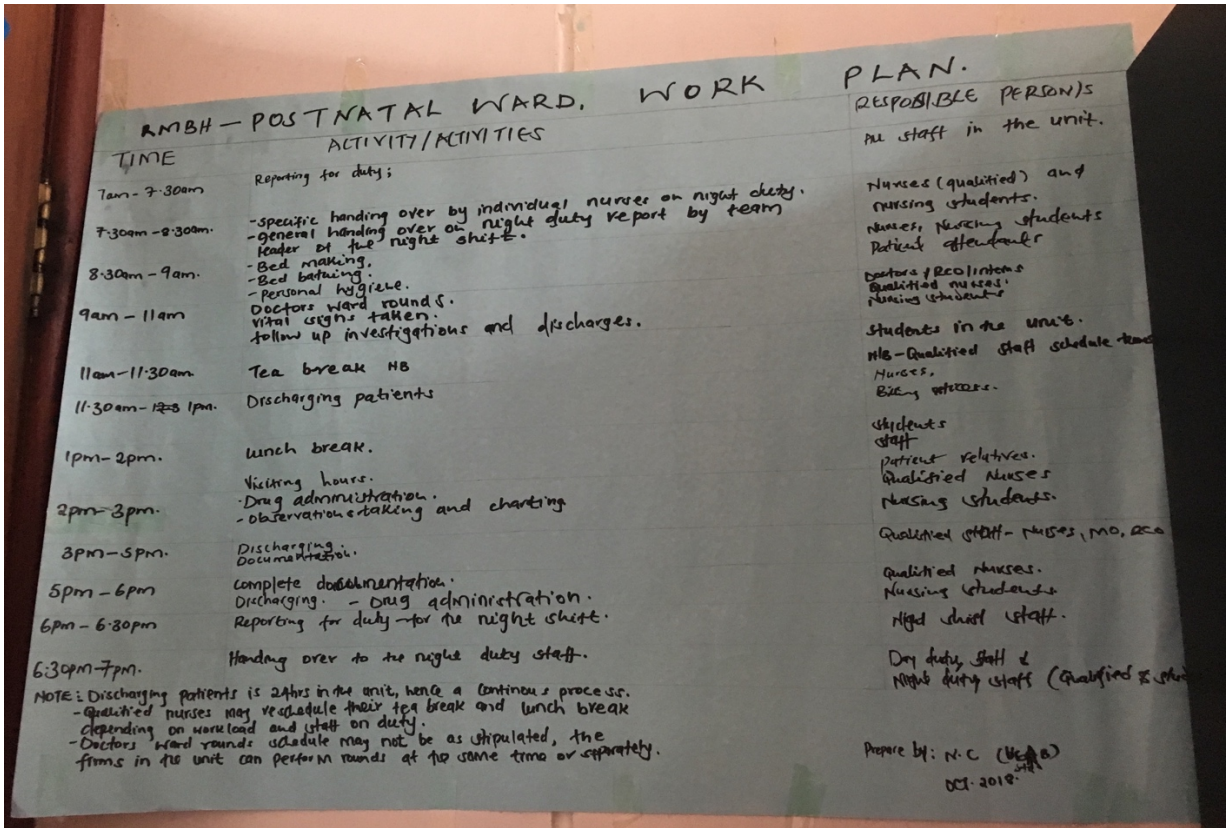


Figure 10. Work plan of the PNW

Nurse-Midwives' Office, C-Section PNW, November, 2018. Photo: D. Reid.

Medical Personnel on the C-Section PNW

Medical personnel in various roles rounded on the patients and wrote orders. Each day there would be a pre-determined combination of clinical officer (CO) interns (students), medical officer (MO) interns (students), medical officers, and registrars who saw patients. COs are similar to physician assistants in the U.S. MOs are licensed general medical doctors. Registrars are qualified medical doctors who are undergoing additional specialty training; they are similar to residents in the U.S. Registrars who round on the PNW are specializing in obstetrics and gynecology. The CO interns rotated to the PNW for two weeks. The other medical personnel would be there for various amounts of time; all were under the physical supervision of the registrar. The registrar was under the supervision of the consultant, the highest level of training in Kenya (similar to an attending physician, the highest level of physician training in the U.S.), however the consultant was only on the PNW two days a week and on call for the remainder of the week. Each day, two medical personnel were assigned to one of the six rooms; one would see half of the patients in the room and the other would see the other half. The patients were divided differently between the medical personnel each day with no particular continuity in seeing the same patients as the day before. The medical personnel usually rounded on and wrote orders for patients in Rooms 1 through 6 from 0800-1200. The rooms were divided into two patient groups (called "firms") and the consultant rounded on one patient group on

Mondays (Firm 1) and the other patient group on Tuesdays (Firm 2) with the daily medical team. Because of the nature of MTRH as a teaching hospital, the consultants were also faculty at the Moi University School of Medicine and many also managed their own private practice in addition to rounding at the hospital.

Discharge Workflow on the C-Section PNW

During rounds, the medical team would determine if a mother could be discharged home with the newborn. Once the doctors wrote orders for discharge, the nurse-midwives would instruct the caretakers to go upstairs to the SVD PNW to have the PNW nurse-midwife complete the newborn's birth certificate, go downstairs to the pharmacy to retrieve home medications for the mother and the newborn's umbilical cord care, and then go to the Billing and Clearance Office on the second floor (the C-Section floor) to "clear their bill" (maternal services are free to mothers and newborns in public hospitals, however, the Billing department keeps a record of the supplies used during the stay in order to get reimbursed by the government for the services provided).

Once they were cleared, the caretaker would bring the paperwork back to the nurse-midwives' office and the nurse-midwife or nurse-midwife in-charge would take the discharge summary that the medical personnel had written and review it with the caretaker and sometimes the mother. During the review, the nurse-midwife would inquire where the nearest health facility was to the patient's residence and would write the location on the discharge summary. Then the

nurse-midwife or the in-charge would sign the paperwork that would be given to the hospital guard to release the mother, newborn, and her support personnel from the hospital grounds. A nurse typically had between five to ten discharges per day between the two rooms of patients they were typically assigned. There were no discharges at night on the C-Section PNW.

Workflow of the SVD Ward

Nurse-midwives assigned to the SVD ward completed bedside report with the off-going SVD night nurse-midwife before going down to prayers in the C-Section ward. After prayers, the SVD nurse-midwife would go back upstairs to the SVD PNW on the third floor. There were six rooms on this ward however only Room 3 was designated for postnatal SVD mothers and their newborns. This room had a capacity of six beds but because of space constraints, at any given time each bed had up to two mothers and their well-newborns. On this floor, Room 1 was designated for post-discharge PNW mothers and their stable babies currently in the NBU (newborn unit). The mothers in this room had been invited by the hospital to stay after their discharge to care for their stable premature newborn who were still NBU patients. These newborns were held skin-to-skin (kangaroo care) by their mothers for most of the day to encourage feeding and growing, though they still required close monitoring and some non-invasive medical interventions. Room 1 was considered part of the NBU (which was on the ground floor) and was staffed by an NBU nurse; it was not under the jurisdiction

of the PNW. Four of the other rooms on the SVD PNW accommodated approximately 75 post-discharge mothers who had sick babies in the NBU and were separated from their newborns. These newborns needed medical therapies such as oxygen, intravenous fluid administration, antibiotics, or enteral feedings (tube feeding). The NBU had a census of approximately 100 babies; the rooms where the mothers stayed were known as "*hostels*." Although they were no longer patients, the hostel mothers were accommodated in the hospital so they could be close to the NBU and care for their infants every three hours around the clock. The nurse-midwife assigned to the SVD PNW was responsible to care for the recently-delivered SVD mothers in Room 3 and basic needs of the hostel mothers in Rooms 2, 4, 5, and 6. This nurse-midwife was also responsible to take the attendance of the hostel mothers twice a day.

For the newly delivered SVD patients, the SVD PNW nurse-midwife was responsible for the assessment, care, follow-up, and documentation of care for mothers in Room Three, filling out the birth certificates for all the well-newborns (on both wards), assessing for, educating on, and administering family planning methods, discharging mothers and well-newborns, and attending to the transient needs of the mothers in the hostels (for example, providing warm water from the electric kettle in the nurse's office). No doctors or medical students rounded on the mothers or newborns on the SVD ward and discharges could take place around the clock at the nurse-midwife's discretion or the mother's request with the

nurse-midwife's approval. On the night shift, the SVD nurse-midwife was also responsible to take the blood pressure, pulse, and temperature of every mother in the hostel with an automatic blood pressure machine and digital thermometer and record it in the *Hostel Logbook*. In addition, the SVD night-shift nurse-midwife was also responsible for immunizing all the newborns born overnight. Whenever the nurse-midwife left the SVD floor (for example to take a tea break, take files to Billing, follow-up on laboratory results, or track down a patient's file [chart]), she would check Room 3 when she returned to see if there were any new mothers and well-newborns that had been sent from the Labor Ward or if any mothers had left with their newborns in her absence.

Discharge Workflow on the SVD PNW

Once the SVD nurse-midwife had determined a mother was ready for discharge, she was required per policy to take the files to Billing and Clearance on the second floor, log who she gave the files to, and then take the discharge summary to the pharmacy on the first floor so the family could obtain the medication for umbilical cord care that was to be applied at home. Most stable mothers came to the SVD ward approximately two hours after their vaginal delivery. If both they and their newborn were deemed by the nurse to continue to be stable, they would be discharged home within approximately two to four hours of arrival to the SVD ward. The nurses reported that on average a mother would stay with her newborn in the hospital for a total of six hours after delivery. If the

baby was born late in the afternoon, evening, or overnight, the mother usually elected to stay overnight so as to not travel home in the dark. The census of the SVD ward was approximately 20 mothers per day. Despite the PNW policy allowing discharges around the clock, there were few discharges at night.

Nurses on both wards were responsible for counseling mothers on family planning (FP). On the C-Section ward, the medical students and interns assessed maternal desire for FP and provided information on the different types of FP when questioned by the mother or spouse. On the SVD ward, the nurse assessed maternal desire for FP, provided counseling, and administered long-term FP methods such as implanted devices (intrauterine or placed under the skin of the arm).

Ancillary personnel that assisted on both wards included a nutritionist (dietician), who was a staff member of the PNW. Inter-ward staff members included immunization nurses who came daily from the outpatient MCH clinic at MTRH to administer newborn immunizations and counsellors for HIV positive mothers and newborns from the AMPATH program. Physical therapists also assisted the C-Section mothers with exercises during their stay. All ancillary staff were available seven days a week during the daytime.

SAMPLING AND RECRUITING

Sampling of places, events, interview participants, and relevant documents was non-probabilistic and part of a purposive site-based sampling and recruiting plan to maximize the potential to collect salient data that would answer the research questions in the time available to conduct the study (Arcury & Quandt, 1999; Guest, Bunce, & Johnson, 2006).

Site-Based Sampling and Recruiting

Site-based sampling and recruiting is a structured approach that stratifies the selection of study places, events, interview participants, and relevant documents to maximize data collection while minimizing potential sampling bias that may favor one perspective when there is a sample of different groups (Arcury & Quandt, 1999). The site-based sampling and recruitment plan also allowed for fluid use of purposive convenience, snowball, and iterative stratified judgement sampling as needed to increase the chances of a well-rounded and diverse sample and to recruit relevant sources that are identified through immersion in the field (Arcury & Quandt, 1999; Germain, 2001; Guest at el., 2006).

The first step of site-based sampling and recruiting was to outline the participant characteristics being sought in the sample (Arcury & Quandt, 1999). After a the review of the literature and consultation with a faculty member in the Department of Midwifery and Gender and the Dean of MUSoN, nurse-midwives,

direct and indirect hospital administrators, clinical officers, physicians, other hospital staff who cared for newborns, and nursing faculty were thought to be likely sources to generate data through participant interviews.

The second step of the site-based sampling and recruiting plan was to determine relevant sites to possibly conduct the study (Arcury & Quandt, 1999). For this study, a pre-existing relationship between the governing bodies of the study sites and the researcher's academic institution narrowed the possible research sites to 35 public healthcare facilities and one public, university-level nursing school in Western Kenya (see Figure 11).

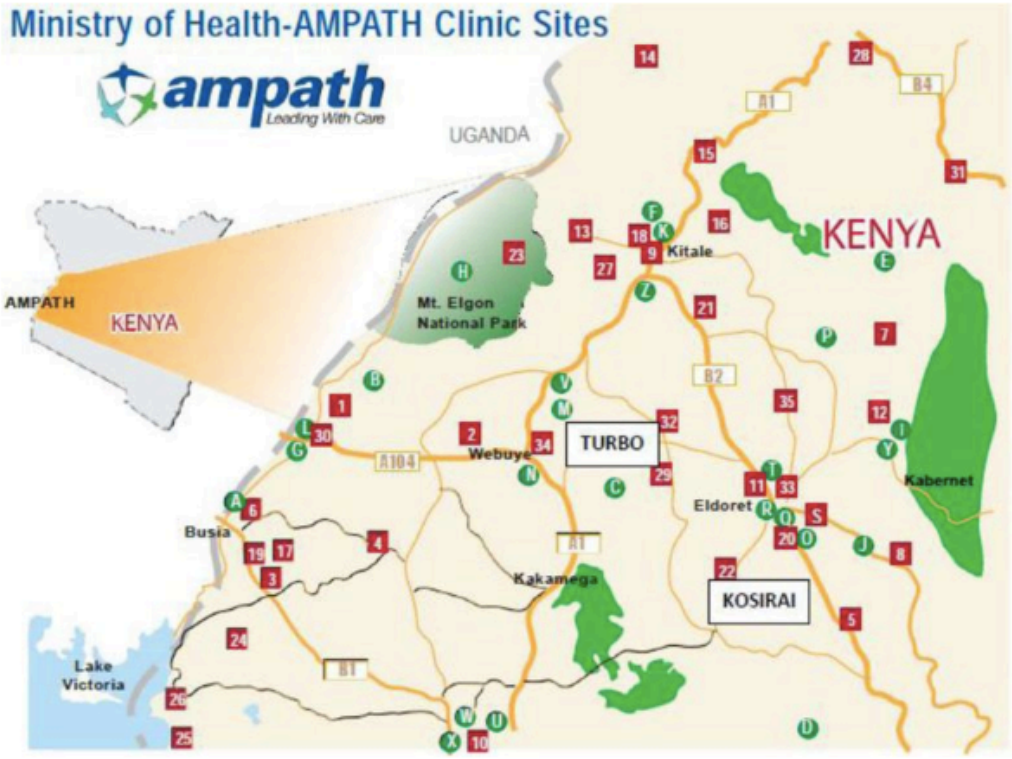


Figure 11. Ministry of health-AMPATH clinic sites

(Vedanthan et al., 2014).

The MUSoN was selected as a study site because it was likely that the Baccalaureate nursing curriculum and Master's-level curriculum in Maternal Newborn Health would have faculty experienced in maternal-newborn health. From the 35 healthcare facilities, the RMBHK was selected as the study site because its designation as a tertiary-level referral hospital made it more likely to have a consistently reliable census of mothers and newborns, a variety of

activities to observe, and a larger pool of staff from which to recruit. The sites were also selected because obtaining institutional review board approval from one entity as opposed to multiple entities at community- or district-level healthcare facilities was conducive to the study time-frame (such sites required additional layers of approval from community leaders and local governments), ease of accessing the study sites on foot each day from the researcher's approved boarding facility, and academic institutional safety regulations preventing overnight stays in unknown or unapproved settings.

The third step of the site-based sampling and recruiting plan was to generate estimates of the composition of the potential participants at each site with the assistance of personnel who could also assist in facilitating researcher entry into the sites (Arcury & Quandt, 1999). Site administrators were recruited via purposive convenience sample (Polit & Beck, 2012) and were familiar with the nursing, medical, administrative, faculty, and other roles directly or indirectly related to newborn care (see Table 9).

Table 9

Proposed Participant Interview Sampling Strategy

	Site administrators (MTRH/MUSoN)	**Faculty (MUSoN)**	**Nurse-Midwives (RMBHK)**	**Other Staff (RMBHK or MTRH)**	**Hospital Administration Staff**
Convenience	X				
Snowball		X	X		
Iterative		X	X	X	X

In addition, generation of these estimates also assisted the researcher to estimate the potential for thematic saturation if there was 60% coverage of specific participant roles (discussed further in the data analysis plan; Guest et al., 2006).

At the MUSoN, the Dean of the MUSoN served as the administrative access personnel to the MUSoN study site. In addition, the researcher gathered information on the number of maternal-child health faculty from the MUSoN's website and then confirmed this information with the Dean in person. This was an important step because even though the website stated that there were nine maternal health faculty members, the Dean notified the researcher that two faculty members were studying abroad, and one was on a leave of absence. In addition, another faculty member became ineligible for the study because she was part of the ethical review board that reviewed the study prior to approval and her participation in the study would be a conflict of interest.

At RMBHK, the initial site access administrator was the Deputy Director of Nursing for MTRH. She introduced the researcher to the nurse in-charge for the PNW who provided the researcher with nurse-midwife staffing estimates for the PNW. There were 22 staff nurses and four direct nursing administrators. Staff estimates for other interview participants such as indirect administrators were determined throughout the course of the study. Because medical personnel staffing in the PNW was blended between physicians and clinical officers at

various levels of training or qualifications, no reliable staff estimates for physicians were obtained (see Table 10).

Table 10

Sampling and Recruiting Matrix for Interviews

Role of Participant	**Known number in role**	**Estimate of 60% total in role**	**Actual number of participants**
Nurse faculty	9	5.4	5 (55%)
Staff Nurse-midwife	22	13.2	14 (63.6%)
Physician	unknown	unknown	1
Direct Nurse Administrator	4	2.4	4 (100%)
Indirect Nurse Administrator	2	1.2	0 (0%)
Total	37		24 (65%)

The fourth step of the site-based sample plan was to begin recruiting. Arcury and Quandt's (1999) two methods of recruiting include: 1) use of the site access personnel to contact individuals who they think might be appropriate for the study (purposive snowball) and; 2) the researcher alerts the potential participants to the study through an announcement and then approaches potential participants to join the study (purposive convenience). For this step, the researcher used both methods in addition to iterative judgement sampling and passive recruiting methods, depending on the role of the potential participant. For example, the researcher used passive recruiting methods with the nursing faculty because the faculty members and researcher had variable schedules and active methods of recruiting were not efficient in this setting. To recruit faculty at the MUSoN, the researcher emailed potential participants to let them know about the

study and ask them to participate (See Appendix 7). This was more efficient because not all faculty were on campus at all times, there was no central area where the researcher could post a recruitment flyer, and it was not optimal for the researcher to interrupt participant observation at the hospital to go to the MUSoN to recruit faculty during the day. In addition, due to the targeted nature of the study to interview maternal-child health faculty, the researcher had previously established relationships with the maternal-child health faculty. Therefore, all relevant faculty knew of the study because they had met the researcher in person during two visits prior to the start of the study.

In the PNW, the researcher made in-person announcements about the study during morning ward announcements and invited nurse-midwife staff to participate. Of the 14 nurse-midwives who participated, 12 volunteered to participate on their own and two were asked to participate by a nursing administrator. The one person (a nurse-midwife) who the researcher approached to participate declined. Also, one indirect nursing administrator volunteered to participate, however the researcher missed her communication regarding availability and the interview could not be rescheduled.

As the study progressed, iterative stratified judgement sampling was used to identify additional staff in the PNW that provided newborn care recommendations or oversaw newborn care but were not nurse-midwives, staff of the PNW, or identified as potential sources of data by site access personnel ahead

of time (e.g. the nutritionist, HIV counselor, immunization nurse-midwife from the MCH outpatient clinic, and nurse-midwife employee of the Proctor & Gamble Corporation of Kenya). These staff or personnel allowed the researcher to observe their work and participated in informal discussions about their roles.

The last step of the site-based sampling and recruiting plan was to maintain a log of participants to track sample characteristics and make adjustments as needed to obtain a diverse but representative sample of participants (See Table 10; Arcury & Quandt, 1999). The final interview sample included nurse-midwives, direct nursing administrators, nurse faculty and a physician. No clinical officers were included because all the clinical officers that see patients in the PNW are interns (students).

Sample Size

The estimated apriori sample size to achieve thematic saturation for this study was a range of 16-24 participants (Guest et al., 2006). This goal was determined using the principles for thematic codebook saturation established by Guest et al., (2006). The final sample size for the interviews was 24 participants. According to Guest et al., (2006), 92% of codes are likely to discovered after coding 12 interviews. This method of achieving saturation reflects the codebook development of a relatively homogenous sample. While the sample at the hospital site had diverse roles, all participants worked at the same study site and worked

together towards the same newborn health goals established by the hospital administration. The nursing faculty were a homogenous sample within the institutional setting. To further substantiate the rationale for the estimated sample size, sample sizes from previous focused ethnographies of newborn nurses providing care were also reviewed (Nelson, 2016; Vittner, Casavant, & McGrath, 2015).

Sample Inclusion Criteria

Sample inclusion criteria were:

1) Over the age of 18 (the legal age in Kenya [Age of Majority Act, 2012]);
2) Able to speak, read, write, and understand English;
3) Staff members of the MUSoN or MTRH who are licensed providers of direct care for newborns or who provide indirect care for newborns (such as in an administrative or faculty role) in a full-time or part-time paid position and have at least 3 months experience in the same position.

Sample Exclusion Criteria

Exclusion criteria were:

1) Healthcare providers whose regular assignment was not with newborns (i.e. float staff), who worked with newborns on an as-needed basis, or direct care providers who worked with newborns and their families for less than 50% of their work-loads;
2) Parents, family members, or other laypeople caring for newborns who were being discharged; and
3) Non-English speakers, due to limited resources that prevented initial translation and back-translation of consent forms and other documents into another language, the services of an interpreter, and translation of transcriptions into English.

MEASURES AND DESCRIPTION OF THE SAMPLE

The measures were study-specific and were designed to maximize emic data collection. Data were collected through participant observation, participant interviews, the review or collection of relevant documents, and researcher-generated fieldnotes (Germain, 2001).

Participant Observation

The purpose of participant observation is for researchers to embed themselves into the environment under study and note the activities, people, and physical aspects of the setting. Through observation, the researcher can learn the

inherent cultural meanings within the environment that may not be openly communicated (Spradley, 1980).

Events or activities were identified as relevant by the interview participants, PNW staff recommendations during participant observation, or the researcher. Because most discharges occurred during the daytime, only 24 hours of observations were conducted on the SVD ward on the night shift. There were no discharges on the C-Section ward on night shift.

In total, 240 hours of participant observation were conducted during the course of this study during both day- and night-shifts. The majority of the participant observation took place during dayshifts on the Caesarian-section (C-Section) and standard vertex delivery (SVD) PNWs at the RMBHK. Twenty-four hours of participant observation was conducted on the night-shift, primarily on the SVD PNW. Relevant events and activities included observing the PNW workflow to include observing morning handoff, morning announcements, provision of general group healthy talks, ward rounds, nursing assessments, individual nurse-midwife counseling, and observation of the discharge process. During the course of the study, the researcher was allowed to complete the discharge recommendation paperwork and fill out birth certificates under the supervision of the nurse-midwives which helped the researcher to participate in the discharge process. In addition to informal discussions with the nurse-midwives, the researcher observed and talked informally with other hospital staff who provided

newborn care recommendations, such as a pediatric administrator, nutritionists, HIV counselors, an outpatient MCH nurse-midwife who administered immunizations during the day on the PNW, and clinical officer interns. In addition, the researcher also observed a presentation on newborn care recommendations that was given every morning by a nurse-midwife from the Proctor and Gamble Corporation of Kenya as part of a promotion of Pampers diapers. The researcher also spoke informally with her about her role. Finally, the researcher observed two hospital-wide presentations – one on bipolar disorder and one on patient privacy laws. Though these events initially seemed irrelevant, the researcher attended because she was invited, and both events provided relevant data about general nursing workloads and expectations in the workplace for all nurse-midwives employed by the hospital. Due to the timing of institutional review board approval after the end of classes, no observations were made of nursing faculty didactic or clinical instruction of newborn care. In addition, review or collection of documents (such as policies and procedures or the MCH booklet) was sampled (Germain, 2001).

Semi-Structured Interviews

During semi-structured interviews, study-specific, semi-structured open-ended interview guides with relevant probes were used to guide the interview (Bentley et al., 1988; Germain, 2001; see Appendices 8-10). The guides were

developed using methods outlined by Kruger (1998) where the researcher asks introductory, transitional, and key questions before ending with a summary and final question. The interview guides contained questions about the postnatal newborn care recommendations that were provided and what factors influenced the content and provision of the recommendations. The interview guides varied slightly based on the role of the participant (e.g. staff nurse-midwife, hospital administrator, and nurse faculty). Relevant probes included asking the participant to explain how they provided discharge teaching when the ward was short staffed or if there was continuing education regarding newborn care topics, and if so, who might provide such teaching. The interview guides were reviewed by the Dean of the Moi University School of Nursing for general appropriateness to the setting prior to the start of interviews. As the study progressed, the interview guides were adjusted to better align with the study setting. For example, the researcher found that it was not relevant to ask the administrators what occurred during a work stoppage because that was not salient to the overall topic and could be perceived by the administrator as the researcher inappropriately asking about private hospital affairs. Towards the end of the interviews the researcher added a question to the interview guide to ask the nurse-midwives what questions the mothers asked them the most frequently. This was a question the researcher wished she had asked much earlier on in the study.

Twenty-four semi-structured, open-ended interviews were conducted with nurse-midwives, nursing administration, nursing faculty, and a registrar. On the postnatal ward (PNW) at the RMBHK, fourteen interview participants were bedside nurse-midwives, four were nurse-midwives in administrative roles, and one was a registrar (medical doctor) in the Department of Reproductive Health. At the MUSoN, five participants were nursing faculty (see Table 11).

Table 11

Interview Participant Demographics

Interview Participant Demographics *n = 24*			
Gender			
Female	20		
Male	4		
Highest degree earned			
Diploma	9		
Bachelor's	7		
Master's*	6		
PhD	2		
Role			
Nurse-midwife, staff	14		
Nurse-midwife, administrator	4		
Nurse-midwife, faculty	5		
Registrar	1		
	Range	*Average*	*SD*
Age (years)	28-56	41.88	7.26
Years working in current role	0.5-18	4	3.7
Years since basic training	6-37	14	8.28

*One participant with Master's level training was also a medical doctor.

Of the four administrative nurses and the registrar, three had Master's degrees and two were pursuing Master's degrees in Maternal-Newborn Health, Midwifery, Epidemiology, or Obstetrics and Gynecology. Of the nurse faculty,

two participants had their PhD degrees in Midwifery and three were PhD candidates in Midwifery. One of the nurse administrators had completed graduate education at the MUSoN. Two bedside nurse-midwives were currently enrolled in that program. No bedside nurse-midwife participants attended MUSoN for baseline nurse training.

All interviews were audio-recorded with anonymity maintained and verbal consent to participate was recorded prior to the start of the interview. Interviews were transcribed by one of two Kenyan transcriptionists who had experience transcribing interviews for research purposes. The interviews were approximately 30 to 90 minutes in length depending on the role of the participant (e.g. the 30-minute interview was with a participant who provided indirect newborn care). Most interviews were between 45 to 60 minutes. Interviews between participants of heterogenous roles were expected to vary in length due to differences in the levels of service providing newborn care and recommendations. Interview times between nursing faculty and administrators were similar in length, however, interviews with staff nurse-midwives varied from 45 minutes to 90 minutes. The nurse-midwife interviews were probably longer because they were more engaged in providing direct patient care, including the provision of newborn care recommendations. The variability in nurse-midwife interview length was likely related to the researcher's interviewing and probing abilities. For the first nine interviews, the researcher did not probe very much, resulting in shorter

interviews. It is possible that the shorter interviews did not garner as much salient data as the longer interviews. A study-specific anonymous demographic survey was also administered at the end of each interview and included questions about participant age, gender, level of nursing education, additional specialized training (if any), and nursing experience (see Appendix 11).

Collection of Relevant Documents

Documents related to the phenomena were collected when they were available (Roper & Shapira, 2000). If the researcher was unable to obtain a copy of a publicly available document, she took a photograph of it. If the researcher had had access to confidential information (e.g. a facility-specific policy or procedure), she made general fieldnotes about the purpose of the document but did not make a copy or photograph the document. The researcher was able to collect documents regarding the discharge summary on the C-Section and SVD wards, the MCH booklet, newborn care information distributed by a private corporation, a newspaper article on neonatal mortality in Kenya, and posters regarding newborn care recommendations.

Thirty-four relevant documents were collected and included policies and procedures, department notices, the MCH booklet, examples of the discharge summary for the C-Section PNW and the SVD PNW, documentation from the medical record about education provided to mothers on breastfeeding, posters of

newborn care recommendations, the *Best for Baby* book provided by Pampers, course syllabi, and a newspaper article regarding inadequate nurse staffing and newborn health outcomes in the nursery at a tertiary-level referral hospital in Nairobi.

Fieldnotes

During participant observation, interviews, and the collection of relevant documents, study-specific descriptive fieldnotes regarding observations or things that were overheard were made in two field notebooks using pencil by the researcher during the event or activity or immediately afterwards according to recommendations by Emerson, Fretz, and Shaw (2011). There were a total of 268 pages of fieldnotes.

Non-Participants

Tong, Sainsbury, and Craig (2007) suggest that the presence of non-participants in the study environment may affect the observations that are made or the data that are collected during interviews. Because of the nature of this focused ethnography, there were several other persons and professionals from other disciplines present in the study area during participant observation. These included medical doctors, clinical officers, nursing students, nursing interns, physiotherapists, house supervisors (zonals), patient assistants, mothers, spouses,

and other caretakers. Almost all the non-participants were aware that an observational study was taking place (e.g. the researcher asked permission of the mothers before directly observing their interactions with the nurse-midwives). It is unknown what affect the presence of non-participants had on the observations, interviews, or newborn care recommendations made.

RIGOR

To maximize study rigor and minimize bias, the researcher used the qualitative quality criteria of credibility, confirmability, and meaning in-context (Leininger, 2002), dependability (Lincoln & Guba, 1985) and triangulation (Denzin, 1978). These criteria were selected for use in this study because of their applicability to the study of cross-cultural nursing practices. To support these criteria, the researcher completed methodological, trustworthiness, reflective, and analytic memos throughout the study to establish an audit trail (Rodgers & Cowles, 1993).

Credibility refers to the extent to which data are obtained from primary sources within the environmental context of their *truths* as they believe them. This can help to establish confidence in the truth of the findings (Leininger, 2002). In this study, credibility was maximized by collecting data from primary sources who were close to the phenomena, prolonged engagement (appropriately timed for focused ethnography using timeframe of REA) and persistent observation in

the natural setting, member checking to ensure meaning-in-context is captured, and consideration of negative case analysis (exploring outlying data points; Leininger, 2002).

In addition, Tong et al. (2007) suggest that researchers should have a transparent relationship with the participants about their personal interest in the research topic and assumptions they introduce into the study because failure to be upfront may influence the participant's responses or bias the researcher's understanding of the phenomena. To facilitate transparency, the researcher introduced herself as a newborn nurse who was interested in studying how nurses can address neonatal mortality in regions where rates of newborn death are of concern. The researcher also expressed willingness to help with patient care duties, if needed. This also helped the researcher to build trust among the nurse-midwives.

Confirmability refers to the presence of primary data from participant observation and verbatim statements from the study participants from which to draw conclusions (Leininger, 2002). Confirmability was maximized through direct participant observation of multiple nurse-midwives between the two wards of the PNW (e.g. on the C-Section and SVD ward) and other healthcare providers who provide newborn care recommendations. The researcher also made observations at different time points (e.g. dayshift and nightshift). Fieldnotes were written during or immediately after all observations. Interviews were audio-

recorded in order to listen to them repeatedly and have verbatim documentation of participant descriptions and quotes of the phenomena. In addition, observations were triangulated with interview data and the researcher clarified any misunderstandings of the data directly with the participants (Leininger, 2002).

Meaning in-context refers to the presence of study findings that are understood by the study participants to be true to their understanding of the phenomena under study. During participant observations, the researcher verified meaning in-context with the nurse-midwives or PNW staff and wrote fieldnotes immediately. For interview participants, meaning in-context was determined through relevant probes during the interview. Because of timing and funding limitations, meaning-in-context after participant observations and interviews was maximized as much as possible through member checking with the Dean of the School of Nursing after the researcher left the field.

Dependability or consistency of the data was achieved by one person (the researcher) to collect, analyze, and synthesize the data (Lincoln & Guba, 1985). Though there are pros and cons to this method, because of the nature of doctoral study where the researcher conducts the study without a team, member checking and consultations with doctoral committee members regarding data analysis and emerging themes was maximized as much as possible.

Triangulation refers to the synthesis of information from multiple sources to cross-validate and confirm the data between the diverse sources (Denzin,

1978). To triangulate the data in this study, the researcher coded all sources of data and then grouped like codes together. Any one code could contain data obtained from participant observation, interviews, or the collection of relevant documents. The data could then be compared across each source to validate and support the meaning found across the data to reach substantive conclusions (Roper & Shapira, 2000).

Audit Trail

To support rigor, the researcher established an audit trail as recommended by Lincoln and Guba (1985) and kept track of the process of data collection, codebook development, data analysis, study notes, and the reflexive journal (Leininger, 2002; Lincoln & Guba, 1985). An audit trail is a researcher-generated record that tracks progress of the study. There are four types of audit trails. A reflective audit prompts researcher reflexivity, a trustworthiness audit logs instances where the data is verified via member-checking, a methodological audit logs iterative decisions that result from ongoing data analysis to guide study changes, and an analysis audit documents evidence of emerging codes or patterns throughout data analysis (Rodgers & Cowles, 1993). During the study, the researcher incorporated the memos that make up the audit trail into the field notebook so that memos would be organized with the data that generated the memo. During data analysis, the researcher made additional analytic and reflexive

memos on the interview transcripts and kept a separate audit trail of analytic and reflexive memos to track emerging codes and concepts in one central location as patterns emerged so that the themes could be revisited cyclically during data analysis.

Reflexivity and Bracketing

Because the researcher is a study instrument, personal biases can be introduced into the study and decrease validity (Leininger, 2002). To minimize the risk of bias, the researcher performed reflexive audits through journaling about thoughts, feelings, and reflections that could introduce potential biases prior to the study, throughout data collection, and during data analysis (de Chesnay, 2015; Roper & Shapira, 2000).

Because the researcher is also a nurse, she performed bracketing to minimize her professional knowledge and working experiences (Cruz & Tantia, 2017). This was important because while she was in the field, she realized that she was making unconscious assumptions regarding the role and expectations of the nurse-midwives. For example, she thought the nurse-midwives were expected to perform a full head-to-toe daily assessment of the newborn or take and record newborn vital signs for well-newborns based on her own personnel job expectations as a newborn nurse. The researcher learned that in the PNW, it was

the physician's responsibility to complete the head-to-toe assessment, and that the nurse-midwives took newborn vital signs only if the newborn appeared sick.

DATA COLLECTION PROCEDURES

Institutional review board (IRB) approval from The University of Texas at Austin (Office of Research Support and Compliance, n.d.), and the Institutional Review and Ethics Committee Review (IREC) at Moi University (including MTRH/RMBHK/MUSoN) was obtained (Institutional Research and Ethics Committee, n.d.). Administrative permission to enter the study sites was obtained (Germain, 2001; McFarland, 2018) from the Deputy Director of Nursing of MTRH/RMBHK and the Dean of the MUSoN. Additionally, per the Deputy Director of Nursing, it was the policy of MTRH that the researcher be licensed as a temporary Kenyan nurse in order to be present in patient care areas (M. Mungai, personal communication, April 16, 2018; Nursing Council of Kenya, n.d.).

Data Collection at the Moi University School of Nursing

At the MUSoN, data were collected through participant interviews with maternal-child health and pediatric faculty and the collection of relevant documents such as course syllabi and photographs of the table of contents of textbooks used.

To recruit interview participants, the researcher emailed potential faculty and invited them to participate in the study. For faculty members who expressed interest, the researcher screened them for eligibility and if eligible, scheduled an interview at a time convenient to the participant. All interviews took place in the committee meeting room or in the faculty member's office at the School of Nursing. At the time of the interview, the researcher greeted the participant, reviewed the informed consent (see Appendix 12), and answered any questions. As part of the consent, participants were asked to approve or decline to be contacted or interviewed up to one additional time after the interview for follow-up questions related to the data they provided. No participants declined to participate. After beginning the audio-recording, the researcher obtained their anonymous oral consent prior to the start of the interview using an assigned participant number in place of their name. After obtaining oral consent but before the start of the interview, participants were given information on available mental health resources in case participation in the interview caused them any mental stress. At the MUSoN, interviews lasted approximately 45 to 60 minutes, with an average interview length of 53.6 minutes. At the conclusion of the interview, participants were asked to complete an anonymous demographic survey, thanked for their participation, and given 1,500 Kenyan shillings (KSh), equivalent to $15 U.S. Dollars (USD; Bankrate, 2018), for their time and travel to the interview location.

Data Collection at the Riley Mother Baby Hospital Kenya

At the RMBHK, data collection was completed through participant observation, participant interviews, and the collection of relevant documents. After being introduced to the ward staff by the in-charge at the start of the study, staff were notified of researcher activities each day during morning announcements and planned researcher activity for the next day. If the researcher was unable to be in the ward when she said she would (e.g. due to illness) the researcher texted the in-charge using the Whatsapp texting application.

Nursing staff were observed as they completed their nursing responsibilities with focused observation of assessment of newborn readiness for discharge, episodes of providing mothers with newborn care recommendations, or the discharge processes. PNW nursing administrators were also observed as they made rounds. During participant observation, potential nurse-midwife interview participants were invited during the morning announcements to contact the researcher to participate in the study. All nurse-midwives who were interested approached the researcher in person while on the PNW. Nursing administrators who participated expressed interest in participating after learning about the study. Two physicians were invited to participate by the researcher after being identified via stratified judgment sampling by the nurse-midwives. Due to schedule conflicts, one was able to be interviewed.

The role of other healthcare personnel involved in providing newborn care recommendations (e.g. the nutritionist or medical personnel) was observed with their permission. They described their role in providing newborn care recommendations through informal discussion with the researcher directly on the PNW. When the researcher observed any healthcare providers interacting with mothers and other caretakers while providing counseling on newborn care recommendations, verbal permission from the mothers and caretakers to observe the interaction was obtained. No data were collected on the mothers or caretakers. No mothers or caretakers declined to have their interactions with PNW staff observed.

Most interviews were conducted on site almost immediately after participants expressed interest in being interviewed. After they expressed interest, the researcher found an available room in the RMBHK for the interview. After securing a room (one of two meeting rooms, or, the isolation room), the researcher screened participants for eligibility, provided additional information about the study (e.g. study background and researcher interest in the topic), reviewed the informed consent, and answered any questions. As part of the consent, participants were asked to approve or decline to be contacted or interviewed up to one additional time after the interview for follow-up questions which all participants consented to. Participants were also given information on available mental health resources in case participation in the interview caused

them any mental stress. The interviews with staff from the PNW lasted approximately 30-90 minutes, with an average interview length of 63.8 minutes with direct nursing staff and an average interview length of 44.5 minutes with nursing administrators. The interview with the registrar lasted 35 minutes. After starting the audio-recording, the researcher obtained oral consent using an assigned participant number in place of their name. At the conclusion of the interview, participants were asked to complete an anonymous demographic survey, thanked for their participation, and given 1,500 KSh, equivalent to approximately $15 USD (Bankrate, 2018), for their time and travel to the interview location. Data from participant observation and interviews were analyzed concurrently with data collection for stratified judgement sampling to identify additional potential participants, events, activities, or documents for the researcher to recruit or sample. For this study, all interviewees participated in one interview. Because of time, no participants were invited to review the interview transcript.

While doing participant observation, the researcher noted relevant documents, such as a poster promoting breastfeeding, publicly posted policies on discharge timing, an MCH booklet, and discharge summaries that were used to provide care recommendations. During interviews, the researcher learned about ward-specific policies and procedures regarding discharge processes. The researcher also came across a newspaper article about newborn health in the sick

baby ward at a hospital in Nairobi that discussed missed care due to nursing staff shortages.

PROTECTION OF HUMAN SUBJECTS

The risks of participating in the study were minimal and no greater than being observed in the workplace or participating in a confidential interview about one's job responsibilities. Despite this, there was the risk that a participant could be disciplined or dismissed from employment if they were found to be engaged in unethical or sub-par performance in relation to their job responsibilities. This risk was deemed rare due to the anonymous nature of the study and efforts by the researcher to maintain confidentiality. During the consent procedure, participants were made aware that any reports of child abuse or suspected child abuse would be reported as required by local regulations.

All study participants were assured that the researcher would maximize every effort to maintain confidentiality. To mitigate risks and protect participant confidentiality, the researcher offered to conduct interviews at a different location from the PNW (but on the MTRH campus) however, all participants declined this option. Informed oral consent exclusive of the participant name but inclusive of the assigned participant identification number was obtained prior to the start of the interview. Participants were also notified of free local mental health resources

available to them at MTRH (E. Kamaara, personal communication, April 13, 2018).

Because of the MUSoN Dean's position as a study collaborator and existing institutional partnerships, faculty members at the MUSoN may have felt obligated to participate in the study. In all researcher requests for study participants, participants were told that they were not obligated to participate and that if they participated and then changed their mind, their data would be destroyed without repercussion.

The identities of study participants were kept confidential on a password-protected laptop and no identifying information was present on the audio-recordings. All recordings were deleted from the recording devices immediately after upload to a password-protected cloud-based storage platform used by The University of Texas at Austin. Two professional Kenyan transcribers who were familiar with transcribing interviews for research purposes transcribed the interviews. After receipt of transcripts, the researcher contacted the transcribers to ask that all audio and written transcripts be deleted from their equipment. Transcripts were stored on the researcher's laptop and deidentified files were analyzed in a private room at the Academic Model Providing Access to Healthcare (AMPATH) guesthouse, or the researcher's private office in the U.S. During active data collection in the field (such as during participant observation), all data remained with the researcher at all times.

Researcher role disengagement occurred at the end of the study to physically and strategically exit the study site (Germain, 2001). The researcher notified the staff at both sites that the data collection portion of the study had ended and provided baked goods made by the researcher to thank them for their time and allowing the researcher to conduct the study. The researcher also provided two small hand-held wooden back massagers for the staff of the PNW (retail value of $8 USD). The researcher notified the participants that study results would be disseminated to them the via the Dean of the MUSoN and the Deputy Director of Nursing at MTRH. Contact was maintained with the study co-collaborator (Germain, 2001) at the MUSoN and the Director of Reproductive Health for data analysis, agreement, and dissemination of findings.

In presenting the findings in Chapter Four, the researcher made efforts to redact any potentially identifying information found in participant quotes, particularly for nursing faculty and administrators where there was a small pool of potential participants (Morse & Coulehan, 2015). For example, information that would identify what class a nurse faculty member taught or identify a nursing administrator in a certain position was omitted and replaced with a blank line to maintain integrity of the information and context of the quote but remove identifying information.

DATA ANALYSIS

Iterative data analysis was done using applied thematic analysis (Guest et al., 2012). Data analysis occurred concurrently with data collection in order to inform iterative judgment sampling and refine the research questions to maximize the potential for rich data to answer the research questions and after data collection (Germain, 2001; Guest et al., 2012). Data analysis was guided by the research questions:

1.) What are the newborn care recommendations that nurse-midwives provide to families at the Riley Mother and Baby Hospital of Kenya and how are they provided? and;

2.) What are the factors that may influence the content and provision of nurse-midwife recommendations for home care of the newborn in the postnatal ward at a publicly-funded tertiary-level referral hospital in Eldoret, Kenya?

Applied Thematic Analysis

Applied thematic analysis is an exploratory, iterative, and inductive approach to analyzing qualitative data generated from free-flowing text such as fieldnotes and interview transcripts (Guest et al., 2012). It is useful when data analysis is bound by practical research questions that require the exploration of

similarities, differences, and relationships in the data to answer the research questions (Guest et al., 2012).

Process of Data Analysis

Although the process of data analysis is presented in a linear fashion, fieldnotes, documents, interview transcripts, and memos were analyzed iteratively and cyclically to revisit emerging themes to ensure they were congruent with the meaning in context and that they applied to the research questions (Guest et al., 2012). Before data analysis began, the researcher cleaned the data by listening to the audio-recordings while reading the verbatim transcripts to correct transcription errors, and then re-listened to the recordings to verify the transcripts and familiarize herself with the data (Guest et al., 2012). She also took pictures of the fieldnotes and relevant documents, labelled them with the location and dates, and uploaded the files to NVivo 12 for Mac (QSR International, 2018). The researcher made analytic memos and notes in a daily calendar so she could track data analysis, thought processes, changes, and things to follow-up on that arose during each data analysis session.

In the first cycle of data analysis, the researcher reviewed the research questions and then read through the transcripts and the associated fieldnotes, memos, and reflexive journal notes to maximize awareness of potential biases that may influence data analysis (Guest et al., 2012). In the second phase, the

researcher read the transcripts again and began to segment raw text into sections of data according to each research question. Segments were defined by the presence of one complete thought; the content of the segment was labelled with a descriptive code that reflected the essence of the text with minimal to no interpretation (Guest et al., 2012). For example, segments of text that described nurse-midwife provided newborn care recommendations (e.g. perform cord care) were differentiated from nurse-midwife recommendations on postnatal maternal care (e.g. monitor for bleeding) or recommendations that did not differentiate between the mother and newborn (e.g. hygiene recommendations). Text segments that described how the recommendations were provided (e.g. orally or written, in English or Kiswahili, or group setting or individually) were grouped together. Text segments that appeared to describe circumstances that may influence the content and provision of the recommendations were also identified. Examples of descriptive code labels at this stage were: newborn care recommendations, maternal health concern, maternal parity, interruptions, interpreter availability, teamwork, vaccine shortages, free maternity, weekly education offerings, focused assessments, or factors affecting provision of recommendations. These descriptive code labels were then entered into NVivo 12 for Mac (QSR International, 2018) along with the corresponding text segment from interview transcripts, researcher fieldnotes, and relevant documents. A codebook was then generated which logged the descriptive codes, a short definition, a full definition, a description of when to

use the code, a description of when not to use the code, and an example of a text segment that represented that code (Guest et al., 2012). Analytic memos were made next to each code to track code development and refinement.

In phase three of data analysis, the descriptive code labels were re-visited to look for patterns (Guest et al., 2012). Patterns were counted for frequency to determine those most commonly occurring (Sandelowski, 2001). Similar patterns were grouped together among the most frequent descriptive codes and labeled with a thematic code generated through data reduction, conceptual interpretation and abstraction of like patterns (Guest et al., 2012; Leininger, 2002). Examples of thematic codes at this stage included workflow, ward policies, hospital policies, governmental policies, discharge processes, interdisciplinary collaboration, and ward culture. At this stage, the researcher was able to complete some member checking with the Dean of the Moi University School of Nursing. Attempts to member-check with actual study participants were unsuccessful.

The themes and their definitions were then added to the codebook (Guest et al., 2012). This process of inductive code development was repeated for all relevant segments of text from nine interviews (three nurse faculty, four nurse-midwives, two administrators, and one physician) before reaching thematic saturation when there were no further changes to the codebook. (Guest et al., 2012). When reviewing the patterns and analytical memos, the researcher began to see patterns regarding maternal health emerge; this data was triangulated across

different data sources and theoretical dimensions during data analysis to ensure confirmability. Sometimes the researcher saw patterns emerging but could not confirm the pattern. For example, the researcher noticed a pattern whereby the newborn family caretaker may also influence the newborn care recommendations, however, this data was generated via researcher specific questions during participant interviews regarding family caretaker influence on newborn care. This data could not be triangulated through participant observation or other methods of data collection. Therefore, because this data could not be confirmed, it was not used to formulate study conclusions.

Throughout all phases of data analysis and each step in each phase, the research questions were reviewed to ensure the questions were being answered appropriately from the information being pulled from the data (Guest et al., 2012). During a subsequent review of the research questions during phase three of data analysis, the researcher realized that the second research question asked about factors that influenced the content and provision of the care recommendations, however, the researcher realized that the first research question only asked about the content of the recommendations but not how they were provided. To align with research question two and in congruence with the iterative analytic strategy (Guest et al., 2012), the first research question was revised to ask, "what are the newborn care recommendations that nurse-midwives give to mothers and caretakers and how are they provided?"

In the final phase of data analysis, the data was abstracted further to define the major themes (See Appendix 13). Throughout all phases of data analysis, the codes and themes were then layered onto Leininger's sunrise orienting framework in order to determine what factors in the framework influenced the content and provision of the newborn care recommendations, and what factors may be missing from the framework (see Figure 2; McFarland, 2018). Dimensions not represented in the sunrise orienting framework were discussed for relevance of future adaptation of the framework as it relates to the provision of term well-newborn postnatal care recommendations in Eldoret, Kenya. For example, ward policies were thematically coded as political-legal factors. Factors that were not represented on the sunrise orienting framework were given their own theme (e.g. latent administrative decision-making factors).

To report the findings, principles of saturation described by Guest et al., (2006) and principles of counting to report qualitative research (Sandelowski, 2001) were used. To describe and differentiate between the findings, at times, the researcher identified the sub-category of the participant group being reported on, and used the terms "all," "most," or "some" to describe the number of participants who provided data regarding a theme or pattern (see Table 12). In the absence of these terms (mostly when <60% of the sample sub-category reported a finding), the actual number of the participants and sub-category of the participants reporting a particular response was reported.

Table 12

Table of Qualitative Descriptors

	Total # in sub-category	**60% ("some")**	**80% ("most")**	**90-100% ("all")**
Nurse-midwife (staff)	14	8-10	11-12	13-14
Nurse-midwife (administrator)	4	2	3	4
Nurse-midwife (faculty)	5	3	4	5
Registrar	1	N/A	N/A	N/A

*all figures are rounded to the nearest whole number.

SUMMARY

This chapter outlined the methods that were used in a qualitative, focused, rapid ethnological assessment which was conducted with the nurse faculty at the MUSoN and the staff of the PNW of the RMBHK at MTRH. This chapter also discussed the measures that were taken to strengthen study rigor and complete data analysis. Chapter Four will present the major findings from the thematic analysis that was conducted.

Chapter Four: Findings

This chapter presents the major study findings. In this chapter, the discharge process for newborns is outlined and the study findings regarding the recommendations that nurse-midwives give to mothers and caretakers, how the recommendations are provided, and the factors that influence the content and provision of the recommendations are presented. Local terminology is used to describe the nursing unit as a "*ward*" and people who support the new mothers as "*caretakers*."

Before presenting the findings, a broad overview of the role of the Kenyan nurse-midwife in providing facility-based postnatal newborn care in the study setting will be reviewed and contrasted with the researcher's role as a nurse from the U.S. This is offered to provide context for those unfamiliar with the postnatal role of the nurse-midwife in Kenya but who may be familiar with the role of postnatal nurses in the U.S.

Nurse-Midwife Role in Postnatal Newborn Care

It is important to understand the role of Kenyan nurse-midwives in providing newborn care recommendations during the postnatal period. Although this was not a study objective, due to the cross-cultural nature of this study, it was important for the researcher to have context to aid in understanding nurse-

midwife provision of home care recommendations for the well-newborn in the public healthcare facility.

To begin to understand this role, the researcher started each participant interview by asking about their understanding of the nurse-midwives' role in providing newborn care recommendations during the postnatal period in Kenya. Participants responded that the role of nurse-midwives was to teach mothers how to take care of themselves and the baby prior to discharge from the hospital. In addition, because of the linear nature of the antenatal-postnatal care continuum, the nurse-midwives reported that mothers should obtain the majority of the newborn care recommendations during their antenatal visits. Therefore, any information provided during the postnatal period was expected to be a review of the recommendations and generally not the first time they were being provided.

In the study setting, nurse-midwives primarily provided nursing care for the mother and visual assessment of the well-newborn while the caretaker (usually her mother-in-law or another female relative) assisted the mother with routine newborn care and hygiene (e.g. diaper changes and bathing). The nurse-midwife then generally provided some newborn care recommendations to the mother (primarily breastfeeding recommendations) while providing other newborn care recommendations primarily to the caretaker (e.g. follow-up examinations). The postnatal nurse-midwives reported that all newborns were to

have received a full postnatal assessment in the labor ward prior to transfer to the postnatal ward.

In the researcher's setting, there are no nurse-midwives. Nurses on the postnatal ward in the U.S. care for both the mother and newborn. For the newborn, they perform a full head-to-toe assessment, general care (e.g. diaper changes and bathing), and documentation. The nurse also provides newborn care recommendations to the mother. Although the mother's spouse or significant other may also be taught about newborn care recommendations, rarely are other caretakers present during that time.

RESEARCH QUESTION ONE

The first research question was: What are the newborn care recommendations that nurse-midwives provide to families at the Riley Mother and Baby Hospital of Kenya and how are they provided? The themes that answer the first research question are: recommendations regarding exclusive breastfeeding for six months, umbilical cord care at home, timing and location of follow-up examination(s) and immunizations, and counseling on select newborn danger signs and care seeking if the newborn experienced these danger signs.

Newborn Care Recommendations

Exclusive Breastfeeding for Six Months

On both the C-Section and SVD wards, mothers and caretakers of live newborns were advised throughout their hospital stay and at discharge to breastfeed exclusively for six months. This recommendation was also identified as the highest priority recommendation. Nurse-midwives regularly assisted mothers with breastfeeding and evaluated the mothers' understanding via how mothers' verbalized understanding or by observing a maternal return demonstration. Said one nurse-midwife,

> So this mother, maybe she is a primi[gravida], she has never given birth, she doesn't know how to attach the baby on the breast so you teach her how to attach the baby, for how long she should put the baby on the breast. Maybe 10 minutes, 10 minutes, then she should--the baby should belch, teach her how to make the baby remove the wind, and then you also tell her to breastfeed the baby for six months without giving any other foods (Participant 18).

All oral instructions were in Kiswahili although at times they were mixed with minimal English. There were multiple observations of nurse-midwives providing instructions to mothers while holding the mother's breast and demonstrating manual expression of milk to confirm lactogenesis. The nurse-midwives also had the mothers perform a return demonstration and assessed the newborn's

attachment, suckling, and swallowing at the breast. They told the researcher that they reminded mothers to feed the newborn every three hours and to report if they were having any breastfeeding complications. Finally, the nurse-midwives documented that the baby was breastfeeding well. Over the course of the study, the researcher learned that this meant that the newborn had no health issues.

The medical personnel also advised exclusive breastfeeding for six months on the written discharge summary that was reviewed and reinforced verbally by the C-Section nurse-midwives at discharge. On the SVD ward, the discharge summary was written by the nurse-midwife before being reviewed by the nurse-midwife with the mother or caretakers prior to discharge.

Mothers of stillborn newborns were cared for in the PNW along with mothers with live newborns. Because some of the recommendations for exclusive breastfeeding were given in a group setting, they also received instructions on exclusive breastfeeding in the group healthy talks, however, they were also shown how to prevent their milk from coming in on an individual basis.

Umbilical Cord Care

At discharge, all nurse-midwives provided recommendations to perform umbilical cord care at home using chlorhexidine gluconate 7.1%, a medicine applied in drops to the cord daily until it detached. On the C-Section ward, the recommendation was written on the discharge summary by the medical personnel

and then reviewed verbally by the nurse-midwives. On the SVD ward, the nurse-midwife provided both written and verbal instructions. In an interview, one midwife said she advised,

> You take care of the cord for the baby. And nowadays we have chlorhexidine which we put, after three days the cord is, the cord is okay, in the process of healing. Do not put, in African culture, long time ago, they used to put something on the cord, maybe ash, some herbs, but nowadays we tell mothers that from the hospital, you don't use salt, warm salty water, warm salt put in our milk, just use the chlorhexidine. We give them the Hexicord [brand name], that's what we recommend now, for three, for five to seven days it is over. The cord is clean (Participant 21).

Location and Timing of Follow-up Examinations and Immunizations

In every observation of the discharge process, nurse-midwives reviewed when and where to return for follow-up examinations with mothers and caretakers. On the C-Section ward, recommendations for follow-up examinations were determined by the medical personnel and mothers were given variable instructions for follow-up depending on their health needs. For example, mothers with hypertension were advised to *return to clinic* (*RTC*) or *to clinic at* (*TCA*) every other day to have their blood pressure monitored. Mothers with C-Section wounds were advised to RTC at two weeks for assessment of wound healing.

While mothers were always given an RTC date and location, the discharge summary written by the medical personnel and reviewed verbally with the mothers by the nurse-midwives did not always specify if the appointment was for the mother or the mother-newborn pair.

On the SVD ward, the nurse-midwife determined the RTC date. Because mothers on this ward had no additional complications, the RTC date was for the maternal-newborn pair. Follow-up of the maternal-newborn pair was recommended for four or six-weeks after delivery, depending on the nurse-midwife. Sometimes the follow-up examination was tied to the administration of additional immunizations at six-weeks of life per the Kenya Expanded Program on Immunizations (KEPI) schedule (see Figure 12).

On both wards, if a mother was HIV positive, they would be given an RTC recommendation for two weeks after delivery. In interviews, nurses on both wards reported variation in timing of the follow-up visits that ranged from two weeks, four weeks, and six weeks of life with two weeks and six weeks being the most frequently recommended.

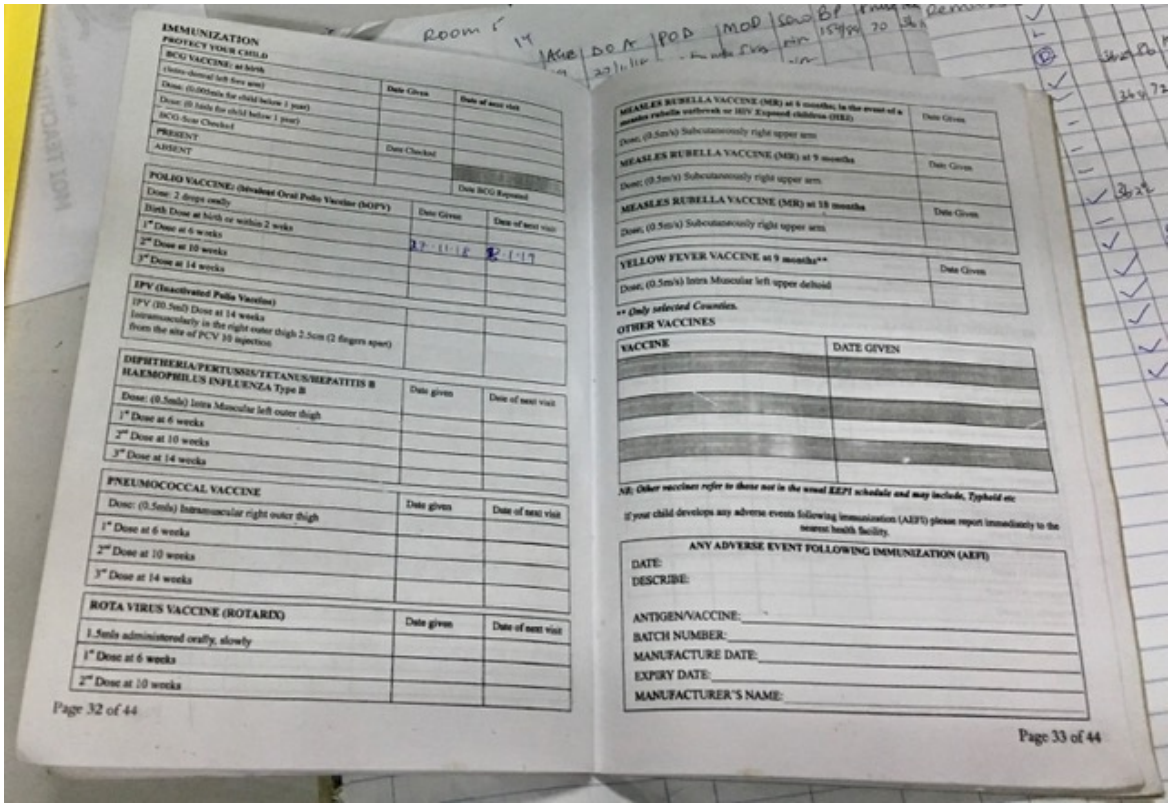


Figure 12. Immunization schedule in MOH booklet with RTC date of six weeks (Nightshift SVD PNW, December, 2018. Photo: D. Reid).

Newborn Danger Signs and Timely Care Seeking

In interviews, nurse-midwives reported that they provided oral recommendations on select newborn danger signs such as poor feeding, fever, jaundice (yellowness), irritability, or lethargy. According to one nurse-midwife, "yeah, like the instructions closer to discharge would be the cord and...the cord, the ones--abdominal distention or yellow discoloration of the skin, irritability at home, fever, such yeah" (Participant 23).

Other danger signs such as foul-smelling cord, difficulty breathing, or seizures were also mentioned, but less frequently. Nurse-midwives stated that mothers or caretakers were advised to observe for these symptoms and return to the nearest health facility with the newborn as soon as possible for further evaluation, even if was prior to their RTC date. Said one midwife,

> We usually, most of the time we tell them to report back to hospital because in the community, we don't have enough people who do the follow up. So in case of anything, you see, the danger signs, the ones we tell you, if you notice anyone of them, just report to hospital (Participant 13).

Provision of Newborn Care Recommendations

Almost all postnatal newborn care recommendations were provided orally to mothers or caretakers in Kiswahili by the nurse-midwives and written on the discharge summary by the medical personnel. Time permitting, general care recommendations were provided in a group setting. Nurse-midwives would provide informal group "*healthy talks*" in the mornings in each room (see Figure 13). The healthy talk included care recommendations for maternal and newborn health and included topics such as exclusive breastfeeding for six months, family planning methods, hygiene, maternal danger signs, and the importance of keeping follow-up appointments for the mother and for the newborn to receive scheduled immunizations. Talks lasted for approximately five minutes.

All nurse-midwives reviewed the recommendations on the discharge summary individually with the mother, caretaker, or both. Some recommendations were also provided verbally on an individual basis if warranted throughout the hospital stay. The nurse-midwives called review of the discharge summaries *healthy talks* as well.

Figure 13. Nurse-midwife providing group healthy talk
(C-Section PNW, Dec. 2018; Photo: D. Reid; Permission obtained).

Other mothers received newborn recommendations on an individual, as-needed basis. For example, if a newborn was sleepy the nurse would counsel the mother on the importance of waking the newborn to eat every three hours.

At discharge on the C-Section ward, the medical personnel determined which mothers could be sent home and wrote the discharge summary for the mother and newborn. On the SVD ward, the nurse-midwives determined when a mother was stable enough to be discharged and then wrote the discharge summary. On both wards, the discharge summary was written in English with a

mixture of layman's terms and medical terminology. For example, the recommendation to exclusively breastfeed for six months or follow-up in two weeks was written as "*breastfeed 6/12*," which meant six out of the next twelve months or "*postnatal follow-up at 2/52*," which meant in two weeks.

The nurse-midwives reviewed the written discharge summary instructions orally, almost always in Kiswahili, with the mothers, spouses, or caretakers. They would also inquire where their nearest health facility was, write the name of the facility on the discharge summary, and review the recommended RTC dates with them. Newborn care recommendations to exclusively breastfeed for six months and perform cord care were always provided on the written discharge summary. The timing and location of the follow-up examination was also always written on the discharge summary. However, on the C-Section ward, there was great variation in the timing of recommended follow-up examinations because of differing maternal health needs. Therefore, while there was always a follow-up date provided, it was not indicated if the follow-up examination was only for the mother or for the mother and the newborn; the nurse did not review who was to attend the follow-up appointment.

Some nurse-midwives only reviewed the recommendations with the caretakers who came to the office with the Billing and Clearance paperwork while the mother was packing her bags in the room in preparation to leave. If a mother was waiting outside the office while the caretaker spoke with the nurse-midwife,

some nurse-midwives invited the mother to listen to the recommendations while others did not. Often there were several different caretakers in the small office waiting for the nurse-midwife or the in-charge to review the recommendations. The average length of the review was one to two minutes. After review, the nurse-midwife would sign the gate pass so the caretaker, mother, and newborn would be able to leave the facility with security clearance.

In the presence of a maternal language barrier, the nurse-midwives asked family caretakers who spoke the language and Kiswahili or English to interpret the newborn care recommendations for the mother. If no caretakers were available, the nurse-midwives called hospital staff members who had been previously identified as interpreters for that language or dialect. In addition, the hospital also provided interpreters for deaf patients.

Timing of Provision of Newborn Care Recommendations

The nurse-midwives gave recommendations either immediately upon admission, intermittently throughout the stay, or on discharge from the ward, depending on the perceived urgency to counsel on the recommendations and their assessment of the mother's ability to comprehend the instructions at that time (e.g. nurse-midwives would counsel on breastfeeding immediately upon admission to the PNW but would defer counseling on other recommendations if the mother was in severe pain or drowsy from surgery). In interviews, nurse-midwives stated that

individual recommendations that were provided immediately were related to exclusive breastfeeding and warmth. Intermittent care recommendations were usually provided as needed or to address an unfolding newborn concern, for example, providing instructions on newborn warmth if the caretaker was bathing the baby near an open window. Another example was when a mother felt her newborn had a fever, the nurse would instruct the mother to undress the baby and breastfeed them. Recommendations that were provided immediately or intermittently were reinforced, depending on maternal or newborn needs and if the nurse-midwife had time to review them again with the mother or caretaker via oral instructions, or to evaluate maternal return demonstration or satisfactory maternal teach-back.

RESEARCH QUESTION TWO

The second research question was,

> What are the factors that may influence the content and provision of nurse-midwife recommendations for home care of the newborn in the postnatal ward at a publicly-funded tertiary-level referral hospital in Eldoret, Kenya?

Themes were derived inductively from the data via thematic analysis and then were layered onto the dimensions of the sunrise orienting framework to determine the factors that influenced nurse-midwife content and provision of the

newborn care recommendations. The major themes that emerged from the data were: *ward congestion; staff shortage; heavy workload; prioritization of maternal health; the baby is not sick*; and *other approved sources.* When layered onto the sunrise orienting framework, the inter-relatedness of these themes within the larger framework to answer research question number two becomes evident (See Table 13). In addition, data analysis also revealed new factors and dimensions not present within the sunrise orienting framework but that may also influence the content and provision of the care recommendations.

Table 13

Themes and Influential Dimensions

	Ward Congestion	**Staff shortage**	**Heavy Workload**	**Prioritization of maternal health**	**The baby is not sick**
Worldview	X		X	X	X
Continuing educational				X	
Political & legal	X	X	X	X	X
Ward values, beliefs, & lifeways	X	X	X	X	X
Professional care-cure practices				X	X

Ward Congestion, Staff Shortage, and Heavy Workload

The themes of *ward congestion*, *staff shortage,* and *heavy workload* emerged as the most frequently cited themes that influenced the content and

provision of the newborn care recommendations. In and of themselves, each theme represents different influential factors, however, they are presented together because of their interconnectedness to each other and the content and provision of newborn care recommendations. When layered onto the sunrise orienting framework, these themes are influenced by factors within the *worldview, political and legal,* and *ward values, beliefs, and lifeways* dimensions.

Definitions

Ward congestion was a term used by the participants and is defined in this study by the presence of a ward census greater than the PNW bed capacity of 35 mothers on the C-Section ward and six mothers on the SVD ward (not inclusive of well-newborns). *Staff shortage* and *heavy workload* were also terms used by the participants. *Staff shortage* on the PNW is defined as a patient ratio of greater than one nurse to four stable postnatal patients with complications, or greater than one nurse for every six stable postnatal patients without complications (American Academy of Pediatrics & American College of Obstetricians and Gynecologists, 2007). The researcher found no guidelines for recommended PNW staffing ratios outside of North America, although a few PNW nurse-midwives mentioned that they would be comfortable managing a patient assignment of ten mothers and their newborns. *Workload* is defined in this study as the assigned duties and responsibilities of the nurse-midwife to administer nursing care within the scope of the nursing practice act (Nurses Act, 2011). In this study, a *heavy workload* is

defined as, when the assigned duties and responsibilities of the nurse-midwife exceeds the nurse-midwife's ability to administer nursing care within the scope of the nursing practice act.

Worldview and Political & Legal Factors

In the sunrise orienting framework, the worldview dimension refers to a broader, social perspective, outside the PNW, that influences care, caring responses, and decisions (McFarland, 2018). Political and legal factors refer to regulations, legislation, and policies that affect the provision of care (McFarland, 2018).

In 2009, the RMBHK was built as a separate building on the MTRH campus as a dedicated space for mothers and newborns to receive care. Previously, the antenatal, labor and delivery, postnatal, and sick newborn wards were in a small area of MTRH and shared the theatres (the operating room) with the other general wards. The nurse-midwives reported that there were much fewer patients then, in part because more mothers were delivering at home with traditional birth attendants. As part of broader goals to improve maternal and newborn health, in 2013, the government of Kenya introduce the *Linda Mama Scheme* (Taking Care of the Mother; Figure 14), which abolished user fees for antenatal, intrapartum, and postnatal maternal-newborn care in public healthcare facilities.

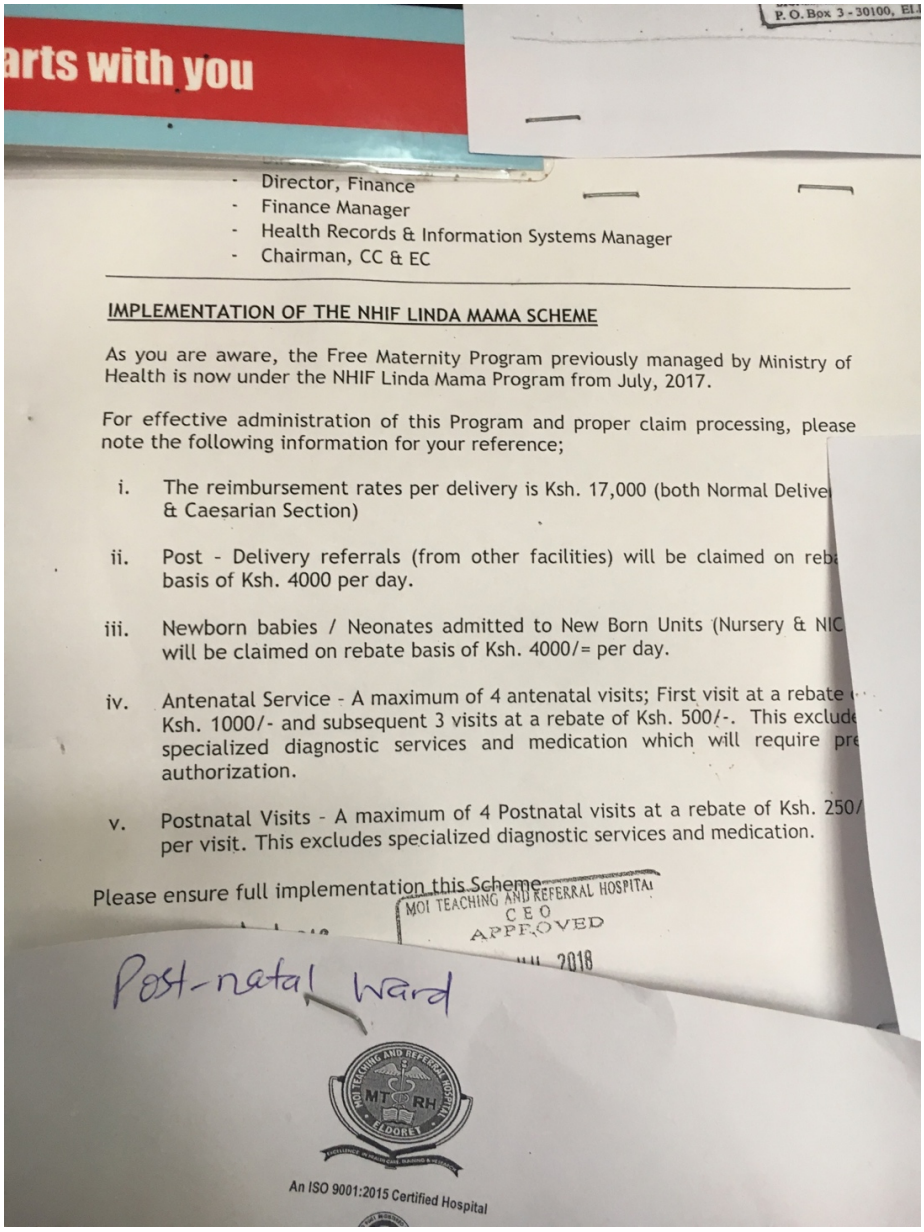


Figure 14. Implementation of Linda Mama Scheme
(C-Section PNW, December, 2018. Photo: D. Reid).

The nurses reported that the combination of a new hospital, the introduction of the Linda Mama (Free Maternity) Scheme, and the reputation of RMBHK for providing quality care resulted in a large number of mothers with normal term deliveries choosing to deliver at RMBHK instead of their local district hospitals. This added to the high census burden from sick mothers who were referred to RMBHK from the large catchment area. All nurse-midwives reported that the congestion from sustained levels of high ward census, ongoing staff shortages, and heavy workloads from high maternal acuity were the factors that most affected the content and provision of the newborn recommendations to mothers and caretakers. Said one nurse-midwife, "the workload--we have many patients. Here, being a Referral hospital, so they come from everywhere...the workload can affect" (Participant 15).

One nurse-midwife stated, "the mothers who are coming in for the free maternity--the numbers are crazy" (Participant 5). In addition, because RMBHK is a public healthcare facility, the nurses reported that no mothers could be turned away, regardless of bed capacity constraints.

The nurse-midwives also reported that the county hospitals would send mothers who did not need the specialty services available at RMBHK, which added to the ward congestion. A frequent topic of discussion during morning *prayers* was that many of the mothers at RMBHK could have delivered at their local county hospital but were sent to RMBHK by the district hospitals. During

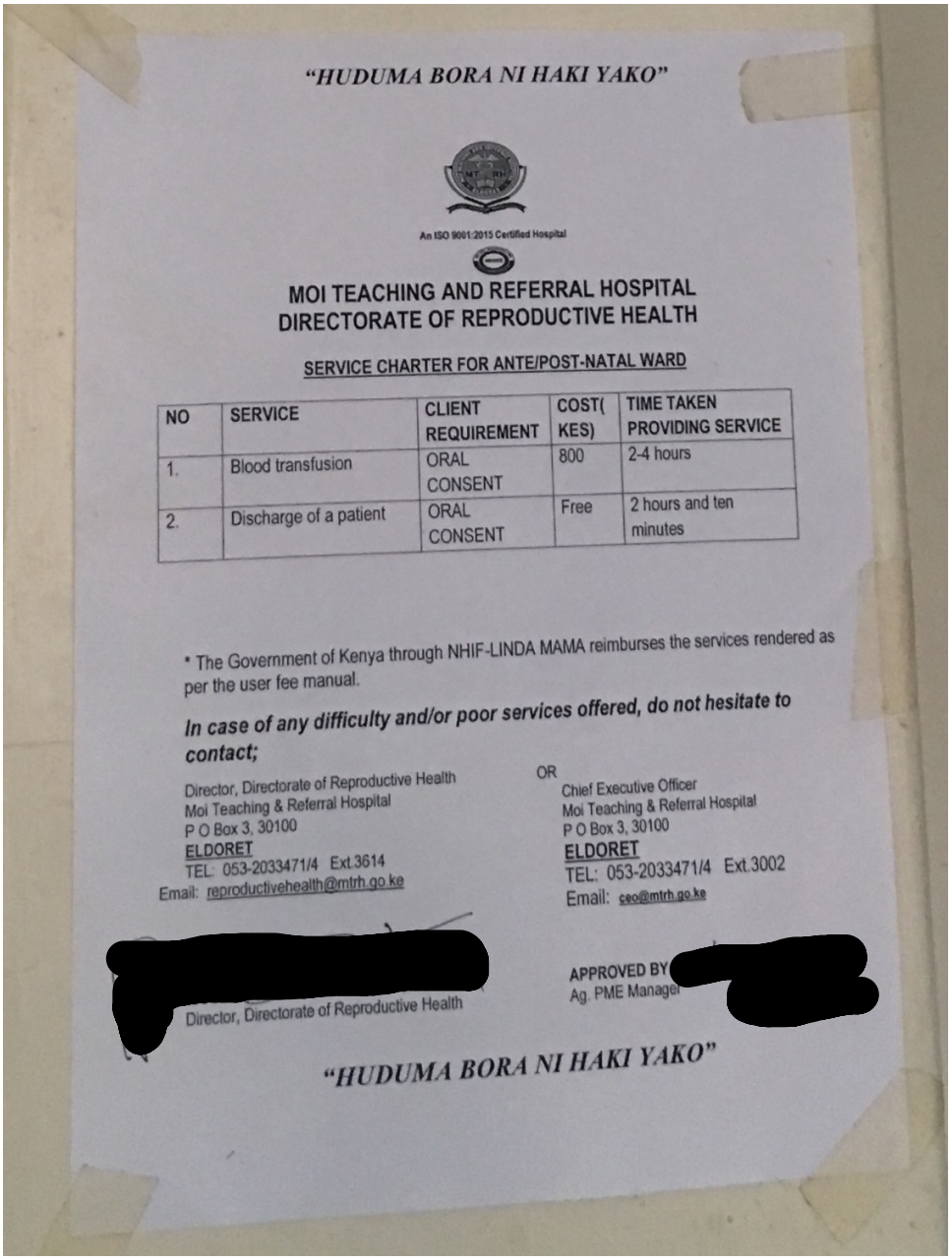
participant observation, the nurse-midwives referenced that devolution of the Kenyan healthcare system shifted responsibility of the district hospitals and health centers to the Counties, while the national government retained oversight of referral hospitals such as MTRH/RMBHK. The nurses reported that although devolution helped the district hospitals and health centers to purchase newer equipment than what was available at RMBHK, patients continued to seek care at RMBHK because of higher perceived staff competence and better quality of care. One morning, during participant observation, as the nurse-midwife in-charge was rearranging patients due to the high census, a nurse-midwife said, "even the night watchman at County sees a pregnant person and sends them to Referral [RMBHK]. They all send them to Referral" (November 21, 2018).

While maternal acuity impacted the provision of newborn care recommendations on the C-Section ward, on the SVD ward, provision of newborn care recommendations was also influenced by ward congestion and compounded by the short length of stay. Many mothers asked to be discharged early rather than share a bed with another mother and newborn when there were no empty beds. In addition, the nurse-midwives were continuously trying to ensure there was enough space for new postnatal mothers by discharging those who wanted to leave early,

> [There is] not enough time, because they are so many, and they stay here not more than one hour because we discharge 24 hours [a day]. They are

so many, yeah, you have to immunize them, you have to clean their beds, they are so many, so you don't have enough time, you just hurry (Participant 22).

The Department of Reproductive Health set quality targets to improve patient satisfaction by ensuring that patients were not waiting for a long time to be discharged. This policy gave nurse-midwives only two hours and ten minutes after the medical personnel had written the discharge summary to complete the discharges of multiple maternal-newborn pairs, some with complex medical needs, in between their other patient care responsibilities (see Figure 15). During participant observation on the C-Section ward, it was observed that the nurse-midwives were required to log the time they received the discharge summary from the medical personnel, and then log the time they signed the mother's gate pass (obtained from the Billing office), to track the length of time they took to complete the discharge.



"HUDUMA BORA NI HAKI YAKO"

An ISO 9001:2015 Certified Hospital

MOI TEACHING AND REFERRAL HOSPITAL
DIRECTORATE OF REPRODUCTIVE HEALTH

SERVICE CHARTER FOR ANTE/POST-NATAL WARD

NO	SERVICE	CLIENT REQUIREMENT	COST(KES)	TIME TAKEN PROVIDING SERVICE
1.	Blood transfusion	ORAL CONSENT	800	2-4 hours
2.	Discharge of a patient	ORAL CONSENT	Free	2 hours and ten minutes

* The Government of Kenya through NHIF-LINDA MAMA reimburses the services rendered as per the user fee manual.

In case of any difficulty and/or poor services offered, do not hesitate to contact;

Director, Directorate of Reproductive Health
Moi Teaching & Referral Hospital
P O Box 3, 30100
ELDORET
TEL: 053-2033471/4 Ext.3614
Email: reproductivehealth@mtrh.go.ke

OR
Chief Executive Officer
Moi Teaching & Referral Hospital
P O Box 3, 30100
ELDORET
TEL: 053-2033471/4 Ext.3002
Email: ceo@mtrh.go.ke

[redacted]
Director, Directorate of Reproductive Health

APPROVED BY
Ag. PME Manager [redacted]

"HUDUMA BORA NI HAKI YAKO"

Figure 15. Service charter regarding length of discharge process (C-Section PNW, November, 2018. Photo: D. Reid).

Ward Values, Beliefs, and Lifeways Factors

Although the Linda Mama Scheme led to an increase in patient census on the PNW, nurse-midwife staffing levels were not increased commensurate with the heavier patient loads. High patient-to-nurse ratios persisted and led to heavy patient care assignments, which became a normal part of working on the PNW. The following is an exchange with a nurse-midwife in an interview:

> **Interviewee**: The nurse, the patient nurse ratio recommended by WHO is one to three or four, is it three or four patients? Three, four, eh?
>
> **Interviewer**: I think for postnatal, it's one nurse to six patients so three mums and three babies, I think.
>
> **Interviewee**: Even if it went to, even if it went to one nurse to ten patients, it would work for us. But right now, we are doing like, triple of that (Participant 5).

Another nurse midwife said,

> Sometimes when, in this place, the mothers are so--okay, sometimes we are few and the hospital, there are so many admissions. So, you find that, we have, like here we have a bed capacity of 35, but you find that you get a capacity of even 60 mothers, double the number. And you are only, maybe we are only four or three, meaning that in World Health recommendation it is one nurse in every six patients; so being three with 60 patients it means you are taking more than 20 (Participant 21).

Nurse-midwives stated over and over that the ward congestion and resulting workload due to staff shortages contributed to delays in providing newborn care recommendations or omission of newborn care content. For example, when asked about the ward congestion and workload in relation to the provision of newborn care recommendations, one nurse-midwife said,

> Because, now, like, for, like in the morning, you can take report for 20 patients. And you have two who are very sick, you will concentrate with the two patients. The others cannot get your services well. It can even interfere--that health messages that you are giving, you depend also on the doctors, but you are concentrating on the sick ones (Participant 7).

Nurse-midwives also felt they had to shorten the amount of time they spent in providing care recommendations because of other high priority responsibilities such as admitting new patients, transporting patients for diagnostic testing, or administering medications safely. Nurse-midwife comments regarding the workload and provision of the care recommendations included:

> Because of the workload, they usually, actually, is like we usually do it [discharge] in the smallest time possible because you want to attend to other things or other things are waiting for you (Participant 12);
>
> It's more of you instructing and not a dialogue. Yeah, not a dialogue between the mom because even the other one is waiting, and the other activities are waiting for me. Someone is waiting for me to pick a patient

from theatre, so you see I am trying to hurry up [with the discharge] so that time will not catch up with me (Participant 23);

Because sometimes you feel the babies are neglected. Even you yourself you feel it, but you are overwhelmed, you cannot be everywhere at the same time (Participant 18).

The ward congestion and workload also made it harder to use resources to provide newborn care recommendations such as the MCH booklet. One nurse-midwife mentioned this in an interview,

Interviewee: You just tell her that this book has 1-2-3, it will help you a lot.

Interviewer: Do you have time to always go through it?

Interviewee: No. Sincerely no (Participant 5).

Ward congestion, staff shortage, and the heavy workload also impacted the quality of the care recommendations and the nurse-midwife's ability to engage in greater depth with mothers about the recommendations,

Yeah, because when I have 20 mothers for real, maybe I'm discharging like five of them, I don't have that quality time to spend with each mother to exhaust everything. Even for this mother, maybe she has her own concerns, but I don't have time for her to ask me so that I clarify. I just say, "ok, this is the discharge instruction," it's more of me, I'm saying this and this, I am not getting from her" (Participant 23).

Another nurse-midwife said,

> I have a feeling that, we are not actually giving [as] much that we should be giving to them. We are actually doing it, it's like we are giving them half, we are supposed to give them 100% so at the end of the day when this mother walks out of this unit she is so confident that she can take care of her baby, even herself, while she is away outside the hospital, yeah (Participant 22).

In addition, frequent interruptions from medical personnel, administrative tasks, or the needs of other patients or caretakers impacted the content and the provision of the recommendations with one nurse-midwife saying, "it is sub-standard. Because you don't give your best, yeah because you are interrupted" (Participant 18). During participant observation, the researcher documented interruptions such as mothers or caretakers alerting nurse-midwives of maternal or newborn complications such excessive maternal bleeding or suspected newborn fever. It was common for newborns to have "dehydration fever" if the mother's milk supply had not yet been established and nurse-midwives or the nutritionist would mix a bottle of formula for the newborns. If a newborn had demonstrable signs of illness such as non-dehydration fever or respiratory distress, the nurse-midwives had to leave the PNW, take the newborn to the NBU, give report on the baby to the NBU staff, and update the mother or caretakers on the newborn's status. Many mothers were distressed if their babies needed to be admitted to the

NBU and the PNW nurse-midwives often had to convince the mothers to allow their newborns to be admitted to the NBU and provide reassurance to them frequently. On the SVD ward, new mothers would come from the Labor Ward without their medical record and so the SVD nurse would have to go and track down the mother's file. Other times there was information missing from the file. For example, if the mother's Rhesus factor was missing, the nurse would call the laboratory to find her bloodwork so the test could be run or blood re-drawn. If they could not find the sample, the nurse would have to coordinate having the sample redrawn and follow-up on the results before discharge. If the nurse had to leave the SVD ward as part of her responsibilities, she would often come back to the office to find multiple spouses or maternal caretakers waiting for assistance and who were frustrated at times having to wait for the nurse to return. In addition, mothers and caretakers on both the C-Section and SVD PNWs also came to the offices frequently to request hot water to make tea or for personal hygiene.

A detailed exploration of the factors that influenced nurse-midwife staffing levels in relation to ward congestion on the PNW was outside the scope of this study. However, there was evidence that nursing administrators were aware of hospital-wide staffing shortages. At a hospital-wide nursing educational offering on nursing care of the psychiatric patient, nursing administrators acknowledged that staffing shortages were a known concern but also expressed,

"there will never be a time when we have enough nurses." When nurses expressed that they could not always attend educational sessions in the Nursing Simulation Center due to staff shortages, another administrator said, "we have to be grateful for what we have because others would love to have what we have."

During informal discussions during participant observation, the nurses reported that they were all full-time employees. MTRH did not employ part-time or per diem staff to fill in for sick calls or vacation leaves. All nurse-midwives were entitled to up to one month of paid vacation annually, and they were encouraged to take it all at once. Up to two nurse-midwives were allowed to be on vacation at any given time except during the month of December. During the course of participant observation, it was learned that to address ward congestion, hospital administrators were working on long-term solutions including helping County hospitals to improve their services so that low-risk mothers would deliver closer to home.

On the PNW, discharge was seen as less important than other medical interventions or services. For instance, there were multiple instances of cohesive teamwork among the nurse-midwives during emergency maternal health concerns. By contrast, although the nurse-midwives on the C-Section ward would help each other during discharges by reviewing the discharge summary, signing the gate pass, or logging a discharge in the appropriate logbook when a caretaker or mother returned from the Billing office, even if it was not their patient, these

actions and the nurse-midwives' counselling often took less than one to two minutes, and were not seen as significant aspects of the job.

On the SVD ward, nurse-midwives reported that there was minimal help with discharges. They remarked that because the acuity of the SVD PNW was lower than the C-Section ward, it was a common occurrence for staff on the C-Section ward to say, perhaps jokingly, "there is no work in SVD." In addition, one nurse-midwife on the SVD ward perceived the discharge as an errand in her day, not a real part of her work, "discharge is included in other things [referring to errands such as obtaining lab results], (laughs) because it is not...work to discharge (Participant 17).

Prioritization of Maternal Health

Although factors related to *ward congestion, staff shortage,* and *heavy workload* were the most frequently cited to have influenced the content and provision of nurse-midwife provided newborn care recommendations, this study found that in the PNW, the theme, *prioritization of maternal health,* had the strongest overall influence on provision of the newborn health recommendations. In the PNW, there was evidence of a strong focus on maternal health across factors that represent the worldview, political & legal, ward values, beliefs, and lifeways, continuing educational, and professional care-cure practices dimensions. The confluence of factors from these dimensions support multiple occurrences of

this theme, which appeared to greatly influence the content and provision of the newborn care recommendations by the nurse-midwives.

Definition

This theme refers to the presence of policies related to maternal health, focus on implementation of maternal health interventions during the hospital stay, and the emphasis on provision of maternal care recommendations to promote maternal health after discharge in the study setting. It is operationalized by the frequency of references or observations of maternal health phenomena when compared to phenomena regarding newborn health.

Worldview and Political & Legal Factors

In this study, the prioritization of maternal health in the PNW was influenced by the Kenyan government's resolve to improve maternal health outcomes across Kenya. While the Ministry of Health acknowledged that multi-sectorial strategies were needed to achieve these goals (MOH, 2016), they also established national strategies that prioritized the reduction of ongoing high rates of maternal mortality within the healthcare system. One nurse-midwife mentioned the government's strategies in her interview, "so we, our worries nowadays are less because when the, the, the government started educating mothers and giving free maternity, and also ensuring that the mortality rates come down, they have started with the, the, the leaders" (Participant 21). Later on, she also said, "it is one of the big four agenda in Kenya. Yeah, the president, one of his big four

agenda in Kenya is reproductive health" (Participant 21). Another participant said, "the government has some targets in reproductive health ahhh, to reduce maternal mortality" (Participant 12).

At the MUSoN, the faculty provided evidence that the curriculum was also guided by governmental factors which helped to prioritize maternal health during baseline baccalaureate nurse-midwife training. In an interview, when a participant was asked about how the curriculum was developed, they replied, "ok, for us we are guided by the local needs, the country needs, usually after demographic surveys we see, where is the need? (Participant 11). In another exchange, the interviewer asked the participant approximately how much of the curriculum covered maternal health and newborn health. The participant replied, "I could say 70 mom, 30 baby, 30% baby" (Participant 11).

The Kenyan government's priority to improve maternal health outcomes translated into policies and protocols that prioritized maternal health on the PNW. To meet the broader governmental mandates, administrators in the Department of Reproductive Health (who oversee the PNW, antenatal ward, labor and delivery ward, and NBU) established strategic goals and outlined objectives and protocols that aimed to reduce maternal mortality rates within the RMBHK from 0.15% to 0.12% (see Figure 16). In addition, the Department of Reproductive Health held monthly meetings to discuss maternal mortality and perinatal mortality (perinatal mortality is discussed with the theme, *the baby is not sick*; see Figure 17). In an

interview, one nurse-midwife said, "the hospital concentrate[s] very much on reproductive health, yes, and much effort is being put in reproductive health. And not even the hospital, it's the whole country" (Participant 21).

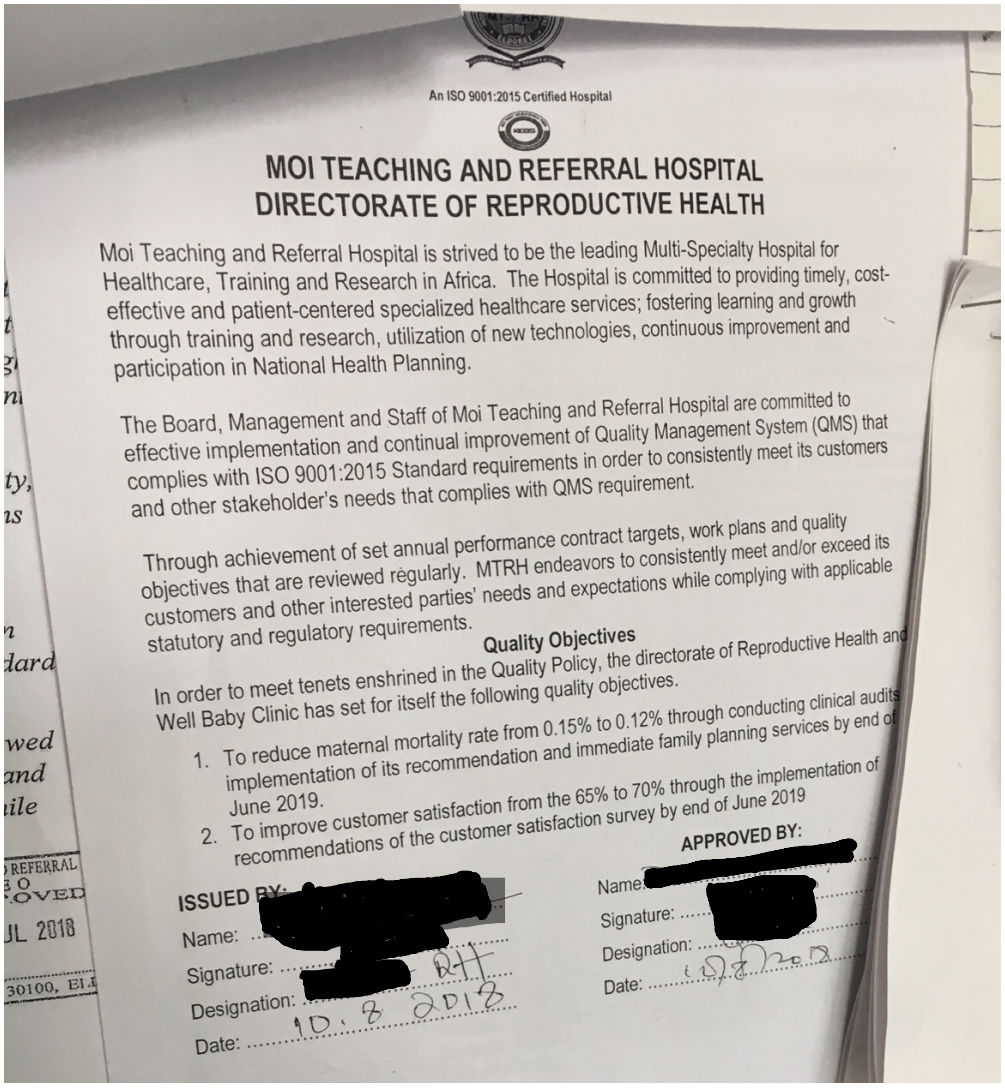
Almost all PNW policies and procedures addressed maternal health concerns (see Figure 18). The only protocol in the PNW protocol book that addressed newborn health was a guide to scheduling a maternal-newborn follow-up appointment at the Reproductive Health and Well Baby Outpatient Clinic at MTRH. That protocol was aimed at evenly timing the follow-up appointments to prevent over-booking.

Maternal health was also disproportionately represented on the discharge summaries, which are legal forms that are part of the medical record. In the C-Section ward, the discharge summary form included no areas to prompt healthcare providers to include newborn recommendations (see Figure 19). On the SVD ward, the discharge summary included two sections for newborn care recommendations regarding breastfeeding and immunizations (see Figure 20). Most nurse-midwives reported that the respective discharge summaries for each ward had not been updated in a long time. Some nurse-midwives thought they were in the process of being updated, however, they were unsure.

When interviewed about how newborn care recommendations were provided at discharge, a nurse-midwife responded that there was no place to note the newborn care recommendations on the written C-Section discharge summary.

Therefore, any additional newborn care recommendations were provided orally by the nurse-midwife and not documented on the summary. The nurse-midwife said,

> But the discharge summary, most of the time, the postnatal discharge summary for first floor [C-Section ward], it doesn't capture anything about the baby, but it captures for the mother. It has a discharge, okay discharge instructions for the mother, but for the baby it doesn't have that discharge summary. It doesn't cater for that, it only talks about the mother, so it's only the carry home information that you are just giving to the mother (Participant 23).



An ISO 9001:2015 Certified Hospital

MOI TEACHING AND REFERRAL HOSPITAL
DIRECTORATE OF REPRODUCTIVE HEALTH

Moi Teaching and Referral Hospital is strived to be the leading Multi-Specialty Hospital for Healthcare, Training and Research in Africa. The Hospital is committed to providing timely, cost-effective and patient-centered specialized healthcare services; fostering learning and growth through training and research, utilization of new technologies, continuous improvement and participation in National Health Planning.

The Board, Management and Staff of Moi Teaching and Referral Hospital are committed to effective implementation and continual improvement of Quality Management System (QMS) that complies with ISO 9001:2015 Standard requirements in order to consistently meet its customers and other stakeholder's needs that complies with QMS requirement.

Through achievement of set annual performance contract targets, work plans and quality objectives that are reviewed regularly. MTRH endeavors to consistently meet and/or exceed its customers and other interested parties' needs and expectations while complying with applicable statutory and regulatory requirements.

Quality Objectives

In order to meet tenets enshrined in the Quality Policy, the directorate of Reproductive Health and Well Baby Clinic has set for itself the following quality objectives.

1. To reduce maternal mortality rate from 0.15% to 0.12% through conducting clinical audits implementation of its recommendation and immediate family planning services by end of June 2019.
2. To improve customer satisfaction from the 65% to 70% through the implementation of recommendations of the customer satisfaction survey by end of June 2019

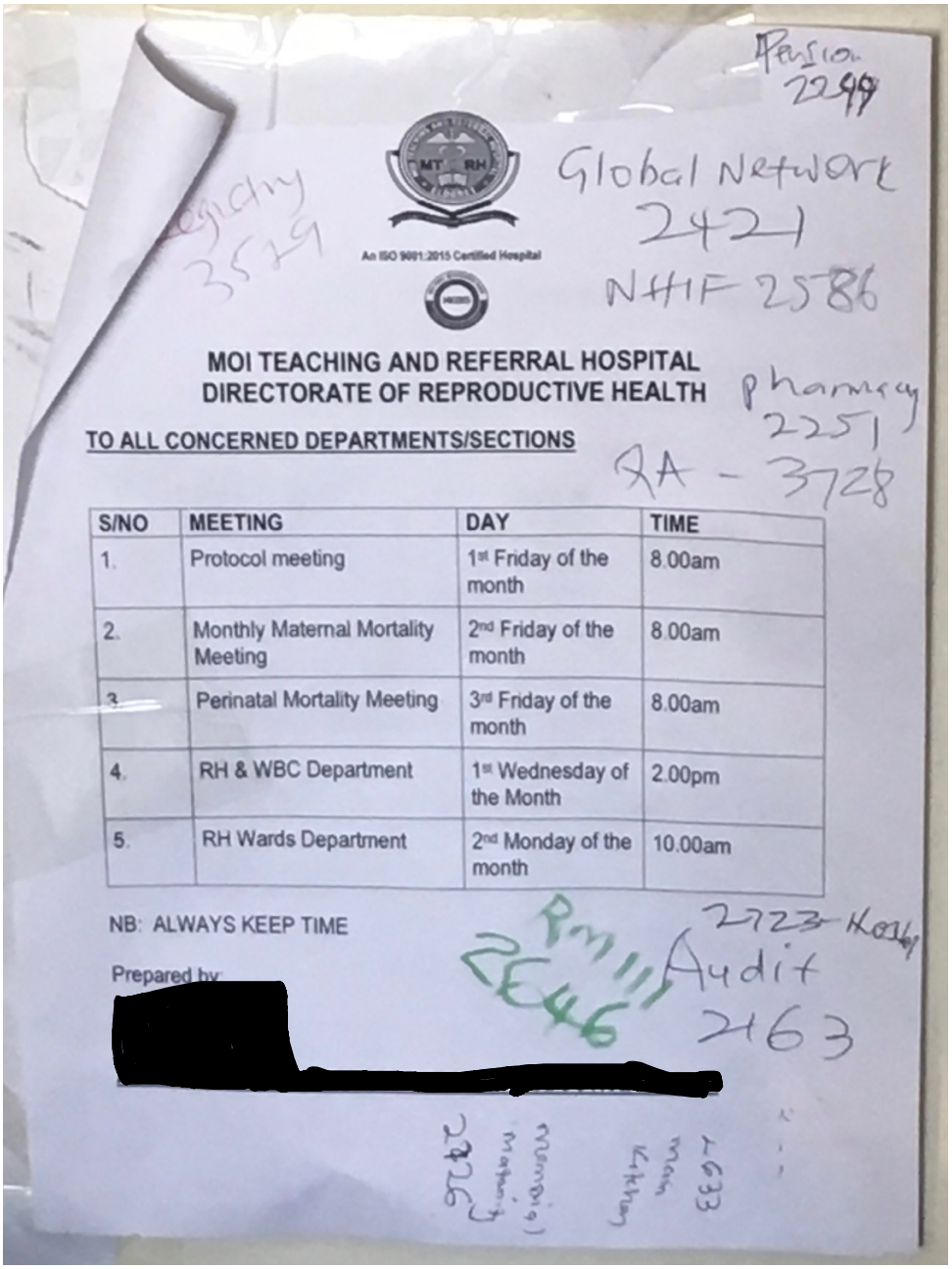
ISSUED BY:

Name: [redacted]
Signature: [redacted]
Designation: [redacted]
Date: 10.8.2018

APPROVED BY:

Name: [redacted]
Signature: [redacted]
Designation: [redacted]
Date: 10.8.2018

Figure 16. Maternal mortality reduction targets
(C-Section PNW, November, 2018. Photo: D. Reid).



MOI TEACHING AND REFERRAL HOSPITAL
DIRECTORATE OF REPRODUCTIVE HEALTH

TO ALL CONCERNED DEPARTMENTS/SECTIONS

S/NO	MEETING	DAY	TIME
1.	Protocol meeting	1st Friday of the month	8.00am
2.	Monthly Maternal Mortality Meeting	2nd Friday of the month	8.00am
3.	Perinatal Mortality Meeting	3rd Friday of the month	8.00am
4.	RH & WBC Department	1st Wednesday of the Month	2.00pm
5.	RH Wards Department	2nd Monday of the month	10.00am

NB: ALWAYS KEEP TIME

Prepared by: [redacted]

Figure 17. Schedule of monthly maternal mortality meetings (C-Section PNW, November, 2018. Photo: D. Reid).

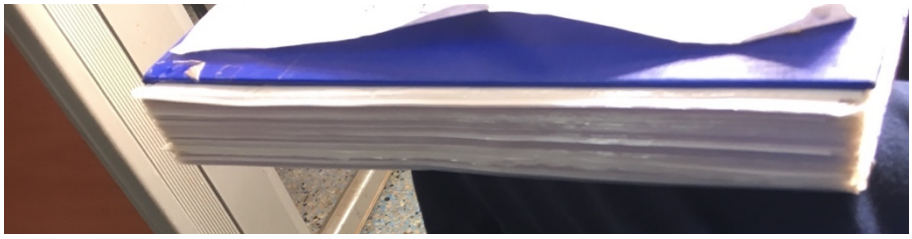
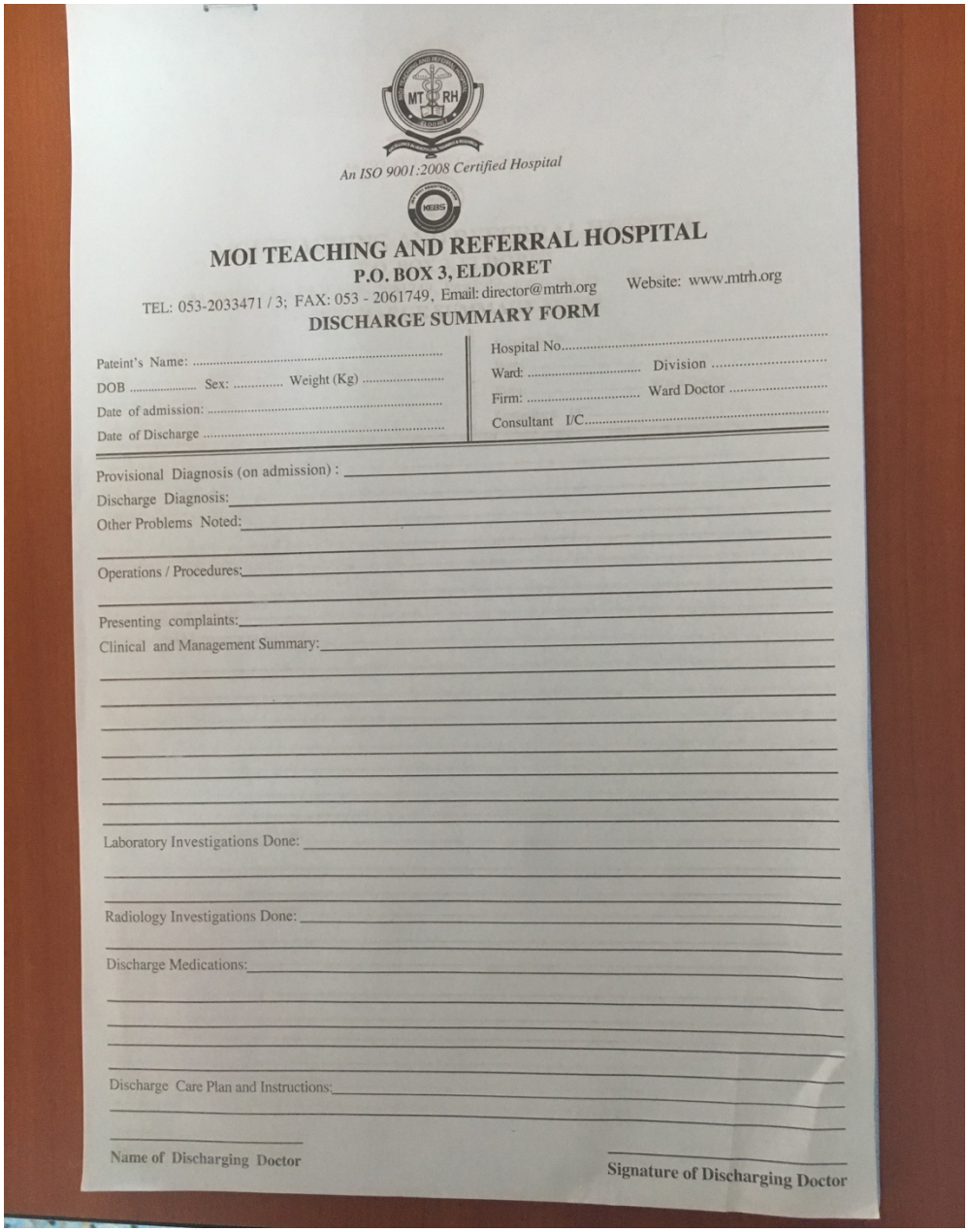


Figure 18. PNW protocol binder with majority maternal health protocols (PNW, November, 2018. Photo: D. Reid).



An ISO 9001:2008 Certified Hospital

MOI TEACHING AND REFERRAL HOSPITAL

P.O. BOX 3, ELDORET

TEL: 053-2033471 / 3; FAX: 053 - 2061749, Email: director@mtrh.org Website: www.mtrh.org

DISCHARGE SUMMARY FORM

Pateint's Name: .....
DOB ..... Sex: ..... Weight (Kg) .....
Date of admission: .....
Date of Discharge .....

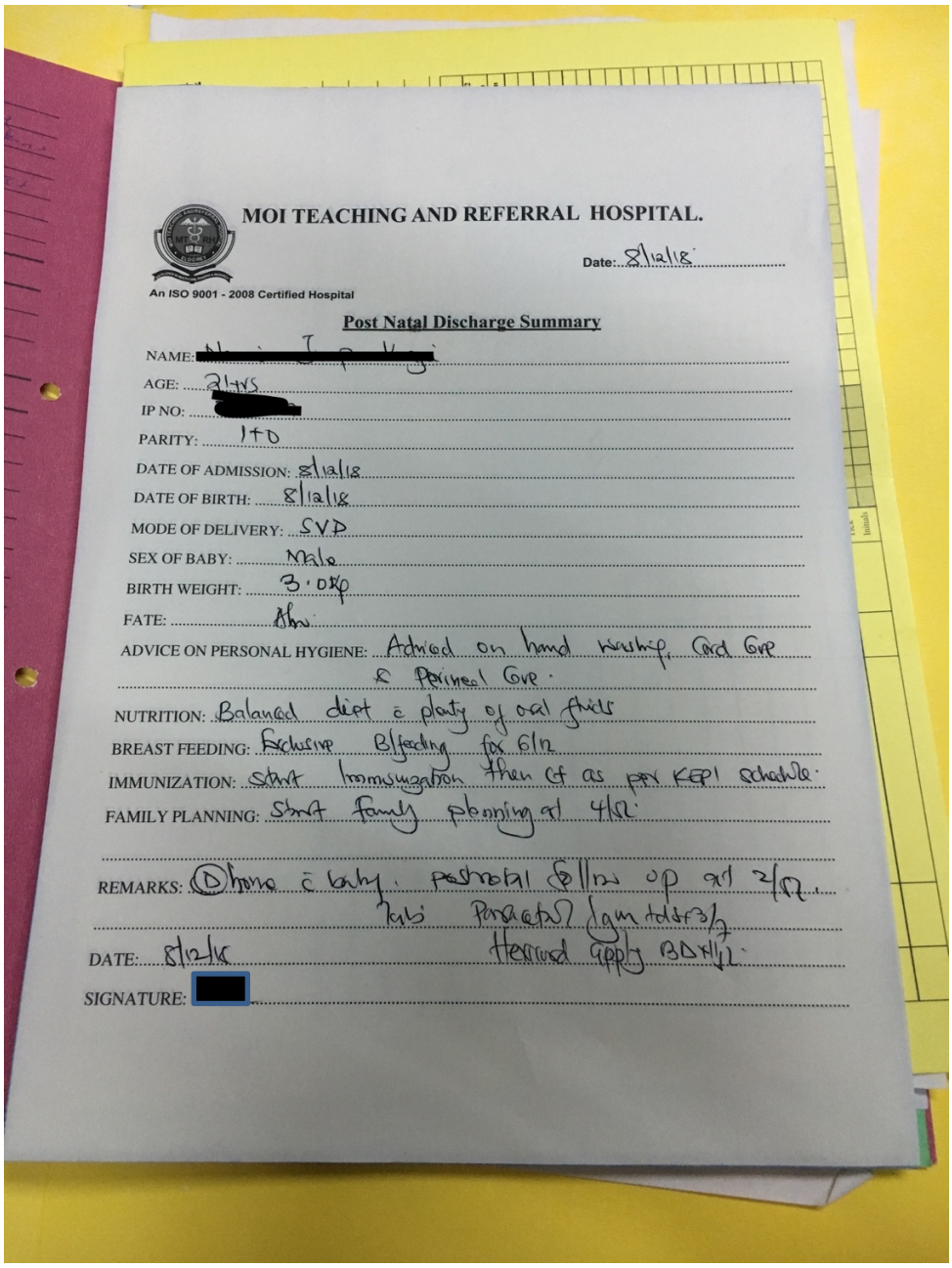
Hospital No.....
Ward: ..... Division .....
Firm: ..... Ward Doctor .....
Consultant I/C.....

Provisional Diagnosis (on admission) : _____
Discharge Diagnosis: _____
Other Problems Noted: _____
Operations / Procedures: _____
Presenting complaints: _____
Clinical and Management Summary: _____
Laboratory Investigations Done: _____
Radiology Investigations Done: _____
Discharge Medications: _____
Discharge Care Plan and Instructions: _____

Name of Discharging Doctor

Signature of Discharging Doctor

Figure 19. Discharge summary on C-Section or complicated SVD delivery PNW (C-Section PNW, November, 2018. Photo: D. Reid).



MOI TEACHING AND REFERRAL HOSPITAL.

An ISO 9001 - 2008 Certified Hospital

Date: 8/12/18

Post Natal Discharge Summary

NAME: [redacted]

AGE: 3 hrs

IP NO: [redacted]

PARITY: 1+0

DATE OF ADMISSION: 8/12/18

DATE OF BIRTH: 8/12/18

MODE OF DELIVERY: SVD

SEX OF BABY: Male

BIRTH WEIGHT: 3.0kg

FATE: Alive

ADVICE ON PERSONAL HYGIENE: Advised on hand washing, Cord Care & Perineal Care.

NUTRITION: Balanced diet & plenty of oral fluids

BREAST FEEDING: Exclusive B/feeding for 6/12

IMMUNIZATION: Start Immunization then as per KEPI schedule.

FAMILY PLANNING: Start family planning at 4/52.

REMARKS: (D)home & baby. Postnatal 6/52 up at 2/52. Kids Paracetamol 1gm tds x 3/7 Herrard Gipply BD x 1/2.

DATE: 8/12/18

SIGNATURE: [redacted]

Figure 20. Discharge summary on SVD ward
(SVD PNW, December 2018. Photo: D. Reid).

Ward Values, Beliefs, and Lifeways Factors

The focus on maternal health was also influenced by the PNW's values, beliefs, and lifeways. In the sunrise orienting framework, ward values, beliefs, and lifeways refer to inherent norms or rituals related to care (McFarland, 2018). In this study, ward values, beliefs and lifeways refer to norms or rituals at the hospital or ward level that collectively form values, beliefs, and lifeways regarding the content and provision of newborn care recommendations.

When describing ward norms, the nurse-midwives reported in interviews that the prioritization of maternal health needs sometimes resulted in newborns being forgotten unless they were sick or it was time for discharge,

> But normally, you concentrate so much on the mother you forget the baby. The only time you come up with the baby is when you are discharging, when you're giving health talk, that is when you mention the baby or unless when the baby has a problem (Participant 18).

Because of the presence of the maternal-newborn pair in the PNW, at discharge, the nurse-midwives provided care recommendations for the mother and the newborn. When interviewed about the content of the care recommendations provided for the mothers and the newborns, a nurse-midwife indicated that the content of the recommendations on the C-Section ward favored maternal health recommendations,

> We tend to concentrate more on the mothers. Yeah, and then the babies...few, few... (Participant 13).

Another nurse-midwife also said that she gave more maternal health recommendations to the mother because the mother would care for the baby,

> Maybe we assume the mother will take care of the baby so unless we just tell, if you see this and this and this, but mostly the mother, especially CS mothers (Participant 6).

Continuing Educational Factors

In this study, the *continuing educational factors* dimension represents educational opportunities beyond basic professional training that may influence care practices in the workplace. Continuing medical education (CME) was offered to all staff by the Department of Reproductive Health at least monthly. Education without CME credit was available to the PNW staff during weekly educational offerings done during *prayers*. Responses from medical and nurse-midwife staff regarding the proportion of maternal and newborn health topics varied. Most staff reported that a majority of the education topics were on maternal health. Staff who attended education on newborn topics reported the newborn health topics were regarding the immediate newborn care provided at delivery such as Helping Babies Breathe (American Academy of Pediatrics, 2010).

Professional Care-Cure Practices Factors

In the sunrise orienting framework, professional care-cure practices represent practice knowledge that is formally acquired through an educational institution (McFarland, 2018). On the PNW, newborn care recommendations were provided by the nurse-midwives and also intermittently by other members of the interdisciplinary care team. The recommendations provided by other members of the healthcare team also influenced the recommendations that nurse-midwives provided. Interdisciplinary personnel within the PNW included medical personnel, nutritionists, students (under supervision), and an HIV counselor (when applicable). Almost always, their recommendations focused on maternal care recommendations. On the C-Section ward, medical personnel wrote the discharge summary that the nurse-midwife then reviewed with the mother or caretaker. The nurses reported that the medical personnel focused more on the mothers and not as much on the well-newborns. In an interview, a nurse-midwife said,

> Mostly here in postnatal, more is placed on the mom, ah, such that the doctors, ah, they concentrate more on the mom and I was feeling like, I wish they could allocate a pediatrician to be doing a ward round in the morning to see these normal babies because most of the times sometimes the doctors forget to look at the baby, they concentrate more on the momma (Participant 15).

When asked in an interview about the discharge recommendations that they provide [during ward rounds], the registrar said,

> So we tell them, "mum, you are going to be discharged today and for now you have no any complication, but if you're, if the mom has any complication, like maybe hypertension, or there is need for her to come back earlier than two weeks, we tell her to come for that specific reason. But if there is no specific reason after C-S we tell them to come back after two weeks routinely so that we can see them. Then we can discuss family planning in case they didn't choose one, then we can see the wound if there is any discharge. We look at the baby routinely (Participant 24).

In order to triangulate with observations made during participant observation regarding medical personnel recommendations for maternal and newborn follow-up examinations in the presence of maternal health concerns (e.g. post C-Section or hypertension), the researcher asked the registrar to clarify if they recommended to the mother that she attend the suggested two-week postnatal follow-up visit with the newborn:

> **Interviewer:** So, for the C-section mum that's coming back after two weeks, do we advise her to take the baby also at two weeks or is it just really the mum's visit for her c-s follow up at the two week follow-up?
>
> **Interviewee**: No, they come with the baby but some of them don't come with the baby, because most of the immunizations are at four weeks. So

> sometimes they leave the baby at home, but we still ask them how is the baby, even if they have not come with the baby, yeah, but the routine is two weeks (Participant 24).

Most nurses reported that other providers, such as the nutritionist, supplemented the recommendations that the nurse-midwives provided while some nurse-midwives thought that the nutritionist was responsible for providing the majority of the care recommendations regarding exclusive breastfeeding. The nutritionist reported that she assessed establishment of lactation, attachment, and addressed complications with all mothers at least once during their stay and advised mothers to breastfeed exclusively for six months. While her recommendations included both the mother and newborn, overall, there was an overarching focus on maternal recommendations in her documentation (see Figure 21).

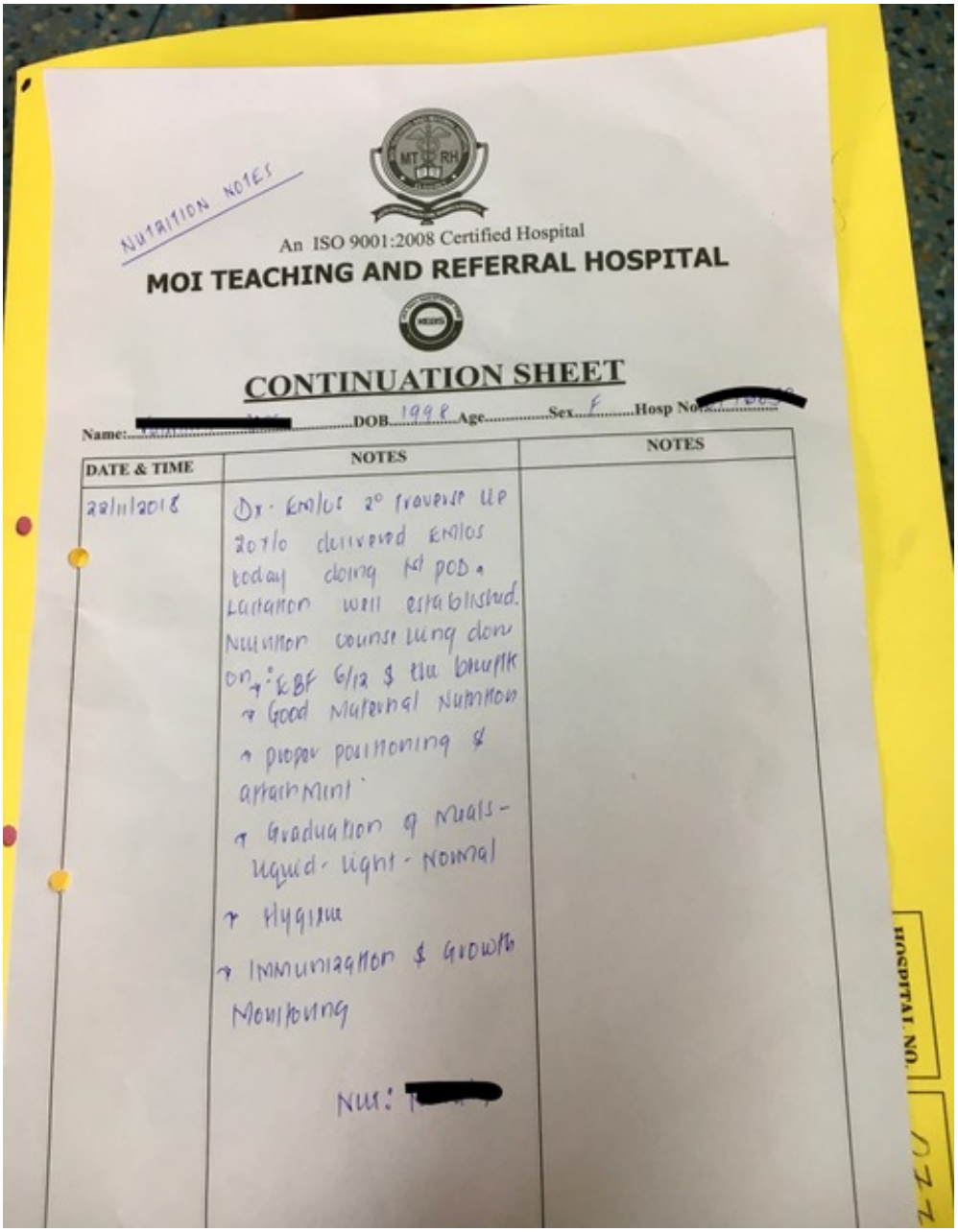


Figure 21. Documentation of nutritionist note in patient medical record (C-Section PNW, November, 2018; Photo: D. Reid).

From these findings, emergence of the theme, *prioritization of maternal health*, on the PNW and at the MUSoN was largely influenced by broader worldview and political and legal factors at the governmental level. In turn, these factors influenced ward values, beliefs, and lifeways, continuing educational, and professional care-cure practices on the PNW. Because of this, the PNW nurse-midwives tended to focus on the provision of maternal health and maternal recommendations for care at home. In addition, there was evidence that other disciplines on the PNW also prioritized maternal health.

The Baby is Not Sick

The theme of *the baby is not sick* emerged as a theme that influenced the content and provision of the nurse-midwives' newborn care recommendations. This theme was influenced by factors within the *worldview, political and legal, ward values, beliefs, and lifeways,* and *professional care-cure practices* dimensions.

Definition

In this study, the theme, *the baby is not sick* refers to the status of the newborn on the PNW as a well, term baby, without perceived complications or abnormalities. This theme is operationalized by evidence that supports that babies on the PNW are not in need of medical intervention, therefore they receive minimal nurse-midwife attention. In addition, this theme is also supported by

what is not present on the PNW to guide care of the term newborn, but may be present in a Western PNW setting (e.g. policies to guide care of the well newborn or a separate medical record for the well-newborn).

Worldview and Political and Legal Factors

In addition to improving maternal health outcomes, the government of Kenya implemented strategies to reduce rates of neonatal mortality. In the acute care setting, these strategies focused on reducing mortality in small, sick, or premature newborns. At the RMBHK, all sick newborns were admitted to the NBU either immediately after birth, or if a complication developed while they were on the PNW. Similar to initiatives to track and discuss maternal mortality at the RMBHK, the Department of Reproductive Health held monthly perinatal mortality meetings to track and discuss neonatal mortality. While this likely improved overall neonatal health at the RMBHK, the attention given to the sick baby appeared to overshadow the overall needs of the well-newborn. When reviewing the PNW protocol binder for patient care, the researcher noticed that there were no protocols for care of the well-newborn.

Ward Values, Beliefs, and Lifeways Factors

The PNW allowed only term newborns who were perceived to be well by the admitting PNW nurse-midwife to accompany the mother to the PNW. According to an administrator speaking about management of the well-newborn

on the PNW, "so in postnatal, for the newborn, their management is actually straight because they are not sick babies, any sick baby actually goes to NBU" (Participant number withheld to maximize confidentiality).

Because of the nature of the study, the interview guide included several questions about care of the term, well-newborn. When the researcher asked the interviewee the question that resulted in the response, "they are not sick babies," the interviewee almost seemed annoyed that the researcher kept asking so many questions regarding what nurse-midwives on the PNW do to care for the well-newborn. This occurred in other interviews as well, where participants would answer interview questions by saying, "as I have said..." to preface their answers as the interview progressed.

Because *the baby is not sick*, newborn assessment, care, and home care recommendations appeared to be the result of organic ward values, beliefs, and lifeways that shaped the norms regarding the newborn care recommendations. For example, during morning report, the PNW nurse-midwives expressed that they ascertained the disposition of the newborn by asking the mother if the baby was breastfeeding well. This was observed during participant observation of the handoff (conducted orally in English with references to written information in the Bedside Shift Report Log) between the nightshift and dayshift nurse-midwives. In an interview, one nurse-midwife said,

> So when we report in the morning, we usually receive the report from the night shift nurses. So they will hand over the mother and the baby, so, but basically we usually overdo the mother's part then -- at least we check if the baby is breastfeeding. If the baby is well, we just ask the mother if the baby is okay. But basically, if the baby is breastfeeding, we assume the baby is okay (Participant 10).

During participant observation most nurse-midwives performed only a brief visual inspection of the clothed newborn and assessed newborn breastfeeding. During an interview, a nurse-midwife confirmed this was the norm when assessing the well-newborn in the PNW. She said,

> The only, okay, we don't major on head-to-toe [assessment], what we, especially here in postnatal, we--basically check on feeding. We only comment [document] on breastfeeding. You just find that we focus on feeding so much other than other things. We just major on is the child breastfeeding well? Yeah, we major on that--unless the baby was irritable that is when we are going to do the follow-up. That is when we are going to handover--the baby was very irritable, not breastfeeding well, the baby has a fever, yeah. Unless there is something peculiar or something disturbing, that is when you will find us doing follow-up. But if the baby is--what we just check attachment and if the baby's sucking reflexes is

well, no other thing-- and the elimination, but we don't go every morning to do head-to- toe. No, no, no (Participant 18).

Nurse-midwives also reported that newborn vital signs were not usually taken or used to determine the status of the newborn in the absence of perceived illness and if they were breastfeeding well. One nurse-midwife detailed following up on complications as they arose,

> So, it's like the routine observations, like taking the temperatures, is like on demand. We don't take them as in vitals as a must. Not unless the mother complains of something or a nurse has just observed something (Participant 12).

In addition, because *the baby was not sick,* some nurses questioned the status of the newborn as a patient. Two nurse-midwives implied that the newborn was not a patient of the hospital unless they were sick and admitted to the NBU. Although both nurse-midwives reported asking the mothers if the newborns were breastfeeding well and provided guidance to mothers on newborn care recommendations throughout the hospital stay and at discharge, they questioned the status of the newborns as patients who required routine documentation of their disposition. One nurse-midwife said, "but we don't have to admit all the babies [to NBU], yeah, unless the baby has fever, persistent fever, irritable, jaundice, yeah" (Participant 18). When asked about documenting [charting] on the newborn

another nurse-midwife said, "the baby is not admitted, the baby doesn't have a file [chart], the file is for the mother" (Participant 7).

Professional Care-Cure Factors

A registrar who regularly rounded on the PNW also reported evidence to support the theme, *the baby is not sick*. In an interview exchange, he detailed the assessment of the newborn in the PNW:

> **Interviewer:** Can you just describe the newborn assessment that you do in the postnatal ward?
>
> **Interviewee:** Yeah, we do. So, we do it at delivery first [in the labor ward] to check for any prematurity and any, any obvious abnormality. In the postnatal unit, we don't do a full check because already there is a note showing that the baby has been checked and is ok. The only thing we look at is if there are any danger signs and then we look at the cord to see if there are any signs of sepsis or if it's well cleaned, yeah.

At the MUSoN, there was also evidence to support the theme, *the baby is not sick.* During all the interviews with nurse faculty, the researcher found she had to remind them a few times that the study was on the well-newborn home care recommendations, not care of the sick newborn in the hospital.

During separate interviews with a nursing faculty member who taught maternity and another who taught pediatrics, it was reported that only a minimal

portion of the curriculum in each class was spent on care of the term well-newborn because the priority was on identifying or providing care for the preterm or sick newborn. In the maternity class, students were taught to assess for obvious newborn abnormalities in case the baby's condition warranted immediate admission to the NBU. One faculty member described the class objectives which leaned heavily towards newborn assessment, saying, “[they are] identification of a normal newborn, identification of deviations from normal, and then management of complications of the newborn” (Participant 11). Another faculty member said, "so my thinking in most of my teaching time, especially talking about the care of the newborn baby, majority of that goes to the preterm babies (Participant 8)." Another faculty member also reported that only a minimal amount of didactic time was designated to discuss care of the normal newborn,

> I would say like an hour--that is excluding the babies who are in the NICU [NBU] because they are a completely different issue. That is, for a normal baby where you teach them and you do the examination, then teaching--one hour. Then we have the demonstrations in the skills lab about examination about an hour, then they have the period when they spend in the postnatal, the clinical areas (Participant 14).

When speaking about the well-newborn, faculty reported teaching nursing students about how to perform tasks such as a normal newborn assessment, assist mothers with breastfeeding, perform cord care, and how to administer

immunizations. However, they did not report teaching students on how to advise mothers on term newborn home care recommendations. In an interview, a faculty member reported,

> And then, within postnatal period, how to identify abnormalities on daily examination. We actually have a protocol on daily examination. And then immunization, also teach on immunization, especially at six weeks when the baby is coming for the first visit. We also teach cord care practices. Yes, those are some of the things (Participant 11).

Nurse faculty reported that they received limited content on the term newborn in their own training, as well. When asked about their baseline training on providing newborn care recommendations, one nurse faculty member said,

> I trained in an institution whereby where we were going for maternity and reproductive health practice, you could even deliver 20 mothers in one night and by morning you are so exhausted and they are being discharged, so as long as you have examined the baby and the baby doesn't have any problem, the baby is breastfeeding, you have given the vaccines, they go home. There wasn't time or you didn't even think about the health messages really. Yes, to me, that was the main focus for me when we were training, and as long as you examined and the baby was okay and breastfeeding then that was it. They would go home, and they would be

ok. The emphasis onto health messages to share with the mother was not well tailored out (Participant 14).

When the researcher reviewed a copy of the NCK Manual of Procedures for Nursing Care while at the MUSoN, she noted that there were no guidelines for care of the newborn listed in the table of contents.

Together, the evidence across these dimensions supports emergence of the theme, *the baby is not sick*. Within the limits of the study setting, there appears to be a mutually exclusive gradient between the themes, *prioritization of maternal health* and *the baby is not sick.* Meaning, the prioritization of maternal health may result in the de-prioritization of care related to the well-newborn, including when providing care recommendations for the mother and newborn at discharge. Given that the government's prioritization of maternal health is relatively new, and the theme, *the baby is not sick,* appears to have substantively undergirded any formal or informal structure that influences the content and provision of newborn care recommendations by the nurse-midwife across the administrative, clinical, educational, or nursing regulatory setting, it is likely that there are additional dimensions beyond the scope of this study that contribute to the emergence of this theme.

Approved Outside Sources

The theme of *approved outside sources* emerged to potentially influence the recommendations that nurse-midwives provided. In this study, *approved outside sources* are defined as any official sources outside the PNW that influenced the newborn care recommendations that nurse-midwives provided to mothers or caretakers in the PNW. While a major theme, it is outside the study scope to identify dimensions that influenced the content and provision of the newborn care recommendations that other providers gave to mothers and caretakers. One example of an *approved outside source* of newborn recommendations included the MCH booklet issued by the MOH (Figure 22). This was sometimes used by the PNW nurse-midwives to supplement the information they provided. The MCH booklet contained educational information about maternal-newborn health and spanned the antenatal-postnatal care continuum. Newborn care content included recommendations for exclusive breastfeeding for six months, newborn danger signs, follow-up examinations, immunizations, and the immunization record. Most mothers obtained the MCH book during visits at a public or private antenatal clinic (ANC). All MCH booklets were in English and were only provided to mothers during ANC. If a mother did not attend ANC appointments, she did not get a copy of the MCH booklet and the PNW did not stock MCH booklets for distribution. In these cases,

newborn immunizations were logged on an immunization card instead of in the MCH booklet.

CARE OF THE MOTHER AND BABY AFTER BIRTH

Eat two extral meals during breastfeeding period

Give only breast milk to the baby

Keep baby warm all times

Sleep with the baby under an insectcide treated bednet (LLIN)

Go for Postnatal Clinic (as soon as possible if home birth)v

Guideline for healthy Eating

Food Group	Benefits	Food sources
Grain, grain products and other starchy foods	Provide energy and important minerals such as iron and calcium Whole meal cereals are healthy and contain more nutrients	Maize, wheat, bread, sorghum, millet or cassava, potatoes, green bananas etc
Pulses (bean, peas, lentils)	Good sources of protein, energy, minerals and vitamins	Beans, lentils, chickpeas, cow peas etc
Nuts and seeds	Good sources of protein, energy, minerals, vitamins and healthy fats.	Nuts: Cashew nuts, almonds, wall nuts, Brazil nuts etc Seeds: Sunflower, pumpkin, sesame seeds
Dairy	Rich sources of calcium important for healthy bones and teeth	Fresh milk, yoghurt, cheese, butter, mala etc
Meat, poultry and fish	Important sources of protein, energy, minerals such as iron and zinc and vitamins	Meat: Beef, goat, lamb, mutton etc Poultry: Chicken, duck, turkey etc Fish: Tilapia, tuna, sardines, omena etc
Eggs	Good source of proteins, minerals and vitamins	Chicken, duck, Quail eggs etc
Dark green leafy vegetables	Contain a variety of vitamins and minerals which protect you and your baby from diseases.	Dark green leaves: Cassava leaves, pumpkin leaves, amaranth leaves, spinach, kales etc
Other vitamin A rich fruits and vegetables	Good sources of vitamins and minerals such as Vitamin C and folate	Ripe mangoes, papaya, melon etc Carrot, pumpkin, orange-fleshed sweet potato
Other vegetables	Good sources of vitamins and minerals	Cauliflower, cabbage, cucumber etc
Other fruits	Good sources of vitamins and minerals	Apple, avocado, banana, blackberry etc

Page 18 of 44

NOT FOR SALE

GO TO THE HEALTH FACILITY IMMEDIATELY IF MOTHER HAS:

Heavy bleeding

Fever

Severe Headache, Foul smelling Vaginal discharge, fits, Engorged breast

Baby has :

Stops breastfeeding well

Has difficult or fast breathing

Feels hot or unusually cold

Becomes less active

Body becomes yellow especially on the eyes, palms and soles

NOT FOR SALE

Page 19 of 4

Figure 22. Newborn care recommendations in Maternal-Child Heath booklet (MPH & MMS, 2010).

Nurse-midwives from other wards at MTRH also provided postnatal newborn care recommendations. For example, it was observed during participant observation that nurse-midwives from the outpatient MCH clinic administered immunizations to all the newborns on the C-Section and SVD PNWs during the daytime. The MCH clinic nurse-midwife explained the newborn immunizations to the mother and then wrote an RTC date in the MCH booklet timed for six-weeks when additional immunizations would be administered.

A nurse-midwife employed by the Proctor and Gamble of Kenya Corporation also provided daily teaching on newborn care to mothers in both wards using a prepared script and presentation materials. The script included recommendations for exclusive breastfeeding for six months. During the presentation, she also performed a return demonstration of breastfeeding and how to burp the newborn with a doll (Figure 23). The script emphasized that by using Pampers diapers, the newborn would sleep for longer periods overnight. After the presentation, the representative went to each mother and gave her a booklet on care recommendations (endorsed by the Kenya Pediatric Association) and two free individual diapers. Recommendations for bathing, breastfeeding, promoting skin care to encourage sleep, and education on sleep, nutrition, and bonding for healthy development were also written in English in the promotional materials that were distributed (Figures 24 & 25). There was also a poster sponsored by Pampers on breastfeeding on the hallway of the C-Section ward (Figure 26). The Proctor & Gamble nurse-midwife mentioned to the researcher that the Pamper's presentation encouraged mothers to deliver in the hospital because they knew they would get free

diapers. She also collected their name, address, and contact information on a clipboard for future communication from Proctor and Gamble. Although she was not a staff member of MTRH, she answered the mothers' questions. During participant observation, a mother asked her what to do if her baby was sleepy and did not want to eat. She then showed the nurse-midwife her baby on her lap. The Proctor and Gamble nurse-midwife encouraged the mother to wake the baby by stroking on the baby's cheeks.

Figure 23. Presentation by Pampers nurse-midwife
(SVD Ward, November, 2018. Photo: D. Reid, Permission obtained).

Figure 24. Pampers *Best for Baby* Booklet
(Pampers, n.d.)

Figure 25. Table of contents of Pampers *Best for Baby* booklet
(Pampers, n.d).

Figure 26. Pampers poster promoting breastfeeding
(Hallway of C-Section PNW, November 2018. Photo: D. Reid).

SUMMARY

This chapter has presented the major themes that emerged from the data collected during the course of this rapid focused ethnography. The nurse-midwives advised mothers and caretakers on exclusive breastfeeding for six months, cord care, follow-up and immunizations, and newborn dangers signs and immediate care seeking. They provided the recommendations orally and through review of written instructions provided in English and based on medical personnel recommendations on the C-Section ward or nurse-midwife discretion on the SVD ward.

The themes of *prioritization of maternal health*, *the baby is not sick*, *ward congestion, staff shortage, heavy workload*, and *other approved sources* emerged from factors within several dimensions of the sunrise orienting framework to influence the content and provision of nurse-midwife provided postnatal newborn care recommendations. The dimensions that influenced these themes were *worldview, political and legal, ward values, beliefs, and lifeways, continuing educational,* and *professional care-cure practices factors.*

A robust discussion of the study findings will be presented in the next chapter. In addition, an adapted version of the sunrise orienting framework for this study setting and population will be proposed. Finally, implications for nursing practice, education, policy, and future research will be proposed before reviewing final study limitations, cross-cultural ethics, and conclusions.

Chapter Five: Summary, Discussion, Implications, and Conclusions

This chapter will summarize the study findings and present a robust discussion of the findings and the existing literature to determine how the findings may contribute to current practice to address neonatal mortality. It will also discuss use and adaptation of the sunrise orienting framework to study the provision of newborn care recommendations. Finally, future implications for nursing practice, education, policy, and research will be presented before final discussions of study limitations and ethical considerations for cross-cultural and qualitative healthcare research are presented.

SUMMARY

Neonatal mortality, the death of a newborn in the first 28 days of life, continues to be a vexing concern globally because there are known, low-cost interventions that can prevent up to 80% of newborn deaths. The highest rates of mortality are in sub-Saharan Africa. In Kenya, a low-middle income country in sub-Saharan Africa, reductions in mortality have plateaued; it is unlikely that Kenya will reduce their neonatal mortality from the current rate of 22 deaths per 1,000 live births to the United Nation's Sustainable Development Goal of 12 deaths per 1,000 live births by 2030.

To address newborn deaths, the government of Kenya has implemented strategies to encourage maternal engagement with the formal healthcare system, improve healthcare provider capacity to provide immediate newborn care, and endorsed postnatal newborn care recommendations in a maternal-child health (MCH) booklet that all mothers receive during antenatal care (ANC) visits. Although these strategies span the antenatal-postnatal

maternal-newborn care continuum, gaps remain in uptake and implementation of initiatives to prevent newborn mortality in the community setting, during days 2 to 42 of the postnatal period when the newborn may be at home.

In the publicly-funded, formal healthcare system in Kenya, nurse-midwives provide the majority of postnatal newborn care recommendations to mothers and caretakers after delivery and prior to discharge from the healthcare facility. The literature review that accompanied this study provides evidence to suggest that little is documented about the newborn care recommendations that nurse-midwives know and provide. There is also evidence that ecological factors in the healthcare setting may compromise the content and provision of nurse-provided newborn care recommendations. Research to understand more about the newborn care recommendations that nurse-midwives provide and how they provide them may inform additional strategies that have the potential to improve newborn health outcomes and reduce neonatal mortality in Kenya.

To begin to understand how nurse-midwives provide newborn care recommendations in Kenya, the researcher conducted a qualitative, focused, rapid ethnographic assessment on the postnatal ward (PNW) at a publicly-funded, tertiary-level referral hospital in Western Kenya. An additional study site at a baccalaureate-level nursing school near the hospital was also included to explore wide factors that may influence the content of the recommendations and how they were provided.

The study design was adapted from traditional ethnography, which uses participant observation, interviews, and the collection of relevant documents to collect data regarding the phenomenon. These data collection methods allowed the researcher to

observe the phenomena as it occurred in the natural setting which facilitated data collection in real-time. Focused ethnography and rapid ethnographic assessment are adaptations of traditional ethnography. These adaptations were necessary so the researcher could use an orienting framework to guide development of the research questions, bound the phenomena to a specific setting and population, and conduct the study and data analysis in a limited amount of time. Sampling methods were purposive; this helped to maximize the potential that the researcher would be able to observe the events and activities that were pertinent to answering the research questions, interview sources of rich data, and collect relevant documents within the study time frame.

Data were collected via participant observation, the collection of relevant documents, and semi-structured open-ended interviews from November to December 2018. Two-hundred and sixteen hours of participant observation were completed during dayshift (0730-1815) and twenty-four hours during nightshift (1830-0630). Thirty-four relevant documents were obtained or reviewed and photographed. Twenty-four interviews were conducted in English with a purposive sample of nursing staff, nursing administrators, nursing faculty, and a medical registrar. There were twenty female interview participants and four male participants who ranged in age from 28 to 56 years old. All interviews were confidential, conducted in English without participant identifiers, and were audio-recorded. During the course of the study, the researcher generated 268 pages of fieldnotes.

Data were analyzed iteratively via thematic analysis. Text from interviews, fieldnotes, or relevant documents were segmented into sections of complete thought and

assigned a descriptive coding label to describe the essence of the text. During subsequent phases of data analysis, data were reduced and six themes emerged regarding newborn care recommendations on the PNW. The themes were then layered onto the sunrise orienting framework (a visual representation of the CCT) to determine the usefulness of the orienting framework to study the phenomenon.

To maximize rigor, the researcher wrote fieldnotes during or immediately after making observations. In addition, the researcher consulted with dissertation committee advisors throughout the study and made iterative changes to the interview guide, interviewing techniques, or triangulation of data analysis based on their feedback.

FINDINGS

The findings revealed that the vast majority of nurse-midwives on the PNW were aware of all the newborn care recommendations endorsed by the Kenyan MOH and presented in the MCH booklet. Despite this, only some of the recommendations were always provided orally or in written form to mothers and caretakers prior to discharge. As a whole, overarching external governmental initiatives such as the *Beyond Zero* campaign and the *Linda Mama Scheme* within the *worldview* and *political and legal* dimensions of the sunrise orienting framework influenced emergence of the themes, *ward congestion, staff shortage*, *heavy workload, prioritization of maternal health,* and *the baby is not sick,* to affect the content and provision of the newborn care recommendations on the PNW. On the PNW, these themes were further influenced by facility and ward-specific factors within the *political and legal, continuing educational, ward values, beliefs, and lifeways,*

and *professional care-cure practices factors* dimensions of the sunrise orienting framework. Although the theme, *other approved sources* also emerged, determining the factors that influenced this theme were outside the scope of this study.

Research Question One: Newborn Care Recommendations

The first research question sought to learn more about the newborn care recommendations that nurse-midwives give to mothers and caretakers on the PNW of the RMBKH and how they were provided. The newborn care recommendations that nurse-midwives were observed to always provide through oral counseling and review of written discharge instructions with mothers or caretakers were recommendations for exclusive breastfeeding, to perform umbilical cord care, and the timing and location of follow-up examinations for newborn immunizations. In interviews, nurse-midwives reported that some care recommendations, such as danger signs, were only provided orally; newborn dangers signs were rarely written on the discharge summary. Failure to breastfeed and fever were the most commonly cited newborn danger signs counseled on, however, there was variation in the provision of other danger signs. These observations were consistent with the literature review conducted for this study that found that most formal and informal healthcare providers in sub-Saharan Africa predominantly counsel on recommendations for breastfeeding and umbilical cord care. This study found that while nurse-midwives on the C-Section and SVD PNWs always provided recommendations for the timing and location of follow-up examinations, recommendations for follow-up on the C-Section ward were inconsistent between maternal and newborn follow-up

recommendations. The provision of other newborn care recommendations such as delayed bathing was given irregularly.

Recommendation to Exclusively Breastfeed for Six Months

The recommendation to breastfeed the newborn exclusively for the first six months of life was the most frequent recommendation identified by all nurse-midwives during interviews and observed during participant observation through return demonstrations. This aligns with recommendations in the MCH booklet. The provision of this recommendation was also observed being given by medical and ancillary PNW staff and students. It was also reported as the most important recommendation by nursing administration, nursing faculty, the Kenyan MOH, and private corporations such as Proctor and Gamble. In addition, failure of the newborn to breastfeed was the most frequent newborn danger sign that was provided to mothers and caretakers by the nurse-midwives. This finding aligns with the conclusions of the literature review accompanying this study that there is widespread coverage of the recommendation to exclusively breastfeed the newborn among healthcare providers.

The prevalence of exclusive breastfeeding recommendations demonstrates the success of widespread education campaigns to promote the relationship between breastfeeding and newborn health. Failure to initiate breastfeeding soon after delivery is associated with increased rates of neonatal mortality (Edmond et al., 2006). In the PNW, while the nurse-midwives assessed the mothers' lactation status, newborn attachment, and advised mothers to alert them if they were experiencing complications with

breastfeeding, providing additional information regarding prevention of breastfeeding complications in the home setting was infrequently discussed. This is concerning because insidious complications such as the delayed onset of lactation or insufficient milk supply after establishment of lactation may lead the mother or caretakers to feed the newborn with alternative substances such as cow's milk or thin the breastmilk with water when outside the healthcare setting (Arusei, Ettyang, & Esamai, 2011; Matsuyama et al., 2013). In one Kenyan study, 80% of first-time mothers reported experiencing breastfeeding complications (Matsuyama et al., 2013). In addition, supplemental feeding may be tied to work constraints, the need to care for other small children, or food insecurity as maternal hunger may contribute to the perception of a reduced milk supply (Webb-Girard et al., 2012). Given that in Kenya, rates of exclusive breastfeeding decline from 84% during the first four-weeks of life to 63% or less after the first four-weeks of life (KNBS, 2015), and there is wide variation in the timing of recommended follow-up examinations, these well-meaning but harmful practices may not be addressed until the newborn's first follow-up visit at up to six-weeks of life.

Furthermore, breastfeeding in Kenya is tied to cultural norms (Matsuyama et al., 2013). Many new mothers stay with their mothers-in-law after delivery and, as a sign of respect, seek their guidance to manage breastfeeding complications (Talbert et al., 2016). Some nurse-midwives reported that discussing newborn care recommendations in a group setting may be a barrier to mothers who are too shy or embarrassed to ask questions in the presence of a caretaker like their mother-in-law. Therefore, nurse-midwives on the PNW should consider counseling mothers and other newborn caretakers individually on

exclusive breastfeeding and common breastfeeding complications (Talbert et al., 2016). They should also provide resources that mothers can access and encourage timely care-seeking for any lactation complications in addition to poor newborn feeding (Arusei et al., 2011). In addition, they should develop a plan with the family to provide appropriate supplemental feedings if exclusive breastfeeding will not be feasible (Cherop, Keverenge-Ettyang, & Mbagaya, 2009). Mothers who can anticipate and trouble-shoot breastfeeding complications at home may increase the likelihood of performing exclusive breastfeeding for the minimum recommended time of six months.

Umbilical Cord Care

Cord care recommendations for the home setting were consistently provided by the nurse-midwives on the PNW. This recommendation was only implemented in the PNW within the last year, so there were no recommendations regarding use of chlorhexidine gluconate for umbilical cord care in the MCH booklet, which was last updated in 2010. Accidental application of chlorhexidine gluconate to the eye of the newborn has been reported in other settings (WHO, 2019a). An important finding regarding cord care on the PNW was that mothers or caretakers would be counseled on cord care and asked to obtain the medicine from the pharmacy just prior to discharge. No observations were made of caretaker return demonstration to correctly apply the medicine, what to do if they missed a day, or what to do if there were complications or side effects from the medication. Nurse-midwife counsel on cord care should also include clear instructions for application only on the cord stump.

While application of chlorhexidine gluconate for cord care remains endorsed by the WHO, a systematic review conducted on literature from Kenya found that there is a lack of evidence to support application of chlorhexidine gluconate for newborns born in a health facility (Sankar, Chandrasekaran, Ravindranath, Argwal, & Paul, 2016). This suggests that, unlike newborns born at home, newborns born in a health facility are not at increased risk for developing an umbilical cord infection. Murikui et al. (2017) reports that initiation of chlorhexidine therapy within the immediate newborn period after delivery would maximize the benefits of prophylaxis and provide nurse-midwives more time to counsel on safe use of chlorhexidine, provide caretakers with an opportunity to verbalize understanding, correctly return demonstrate appropriate application, and ask questions as needed. If nurse-midwives and other clinicians are to continue providing recommendations to caretakers for the application of chlorhexidine to the umbilical cord stump until it falls off, the literature suggests that it would be advantageous to provide the medication soon after delivery. For newborns in the SVD PNW where there are short hospital stays, the current nurse-midwife practices may be sufficient. For C-Section deliveries with stays of two to three days however, it may be advantageous to provide information on cord care on admission to the C-Section PNW instead of at discharge. In either case, it is recommended that there be opportunities for caretaker return demonstration.

Follow-up Examinations

Because rates of postnatal follow-up examinations for the newborn are low in Kenya, it was a strength of the PNW that all nurse-midwives reviewed the written recommendations for follow-up that included the date and location of the follow-up examination with the mother or caretaker using the written discharge summary. Although the return-to-clinic (RTC) date and location was specified, on the C-Section ward, it was not documented whether these follow-up visits were for the mother or for the maternal-newborn pair.

Clarification that provides distinct RTC follow-up recommendations is needed separately for the mother and newborn in order to reduce confusion, especially when there are multiple providers of recommendations (e.g. the mother may be advised to return at two weeks by the nurse-midwife and is then advised by the immunization nurse-midwife to return at six weeks). Also, RTC dates should be reviewed with all personnel to ensure that proposed follow-up dates align with the recommendations for maternal-newborn follow-up in the MOH booklet. Currently in the booklet, follow-up is recommended at 48 hours, one to two weeks, and four to six weeks of life. Nurse-midwives should emphasize the importance of newborn follow-up for weight checks, establishment of maternal lactation, and the absence of newborn illness or complications. Only associating follow-up examinations with the recommended vaccine schedule may diminish the importance of follow-up at 48-hours, one to two weeks, and even four-weeks of life. Given the multiple physiological transitions occurring in the newborn during the postnatal period, limited assessment of the newborn in the hospital, facility

lengths of stay as short as four hours after delivery, and that rates of neonatal mortality are highest during the first week of life, nurse-midwives should emphasize to medical personnel, mothers, and caretakers the importance of follow-up examinations to monitor maternal-newborn progress, especially in the first one to two weeks after delivery.

Danger Signs and Timely Care Seeking

The nurse-midwives reported that they counseled mothers orally on select danger signs, encouraging mothers and caretakers to seek immediate medical care if the baby refused to eat, had a fever, jaundice, irritability, or was lethargic. While provided orally, danger signs were rarely written on the discharge summary. Thus, they may be forgotten by the mother or caretakers when there are multiple recommendations regarding maternal and newborn health being provided at discharge. Although most danger signs were provided by the MOH in the MCH booklet, most times the MCH booklet was only observed being used with the mother to discuss RTC dates for future immunizations with little to no emphasis on the danger signs. In addition, studies report low rates of maternal knowledge regarding newborn danger signs after discharge from the facility despite being given the MCH booklet during the antenatal period (Kiabaru & Otara, 2016). Nurse-midwives should review the MCH booklet, which includes written and pictorial depictions of newborn danger signs, with mothers and caretakers prior to discharge.

The nurses-midwives' emphasis on seeking treatment immediately for any newborn illness was a strength of the PNW. All nurse-midwives assisted mothers and caretakers in identifying their nearest health facility which was particularly helpful for

many patients who lived far away from the hospital and who may also have transportation barriers.

How Recommendations are Provided

There was considerable variation in how the recommendations were provided and the timing of when they were provided. Nurse-midwives used their personal assessment and judgement to determine when to provide newborn care recommendations throughout the hospital stay. The provision of individualized counseling was advantageous, particularly for help with breastfeeding or if the newborn developed complications such as a fever; outside of the discharge process, individualized counseling was only provided if warranted.

The provision of care recommendations through group healthy talks helped mothers and caretakers to receive counseling on the recommendations at the same time. It was also helpful because a mother might ask a question that another mother might not think to ask during individual counseling typically provided immediately before discharge. While the majority of care recommendations were provided in the group healthy talk, some nurses expressed that some mothers may be shy, depressed, or may have a private question they may not want to ask in front of others. The majority of the recommendations provided during the healthy talk were regarding maternal health.

Nurse-midwives recounted that sometimes it was hard to provide sensitive information to a mother in a room full of other people and suggested that there should be

a room to provide the recommendations in private. In addition, although few mothers were discharged at night, it is likely that those mothers missed the group healthy talks.

Nurse-midwives on the PNW should consider that maternal and caretaker uptake of orally-delivered care recommendations are known to be compromised by multiple maternal factors (e.g. pain, lethargy, health complications), caretaker factors (e.g. father in a hurry to leave at discharge), the provision of maternal care recommendations (e.g. wound care or bleeding), the provision of sensitive or potentially contentious recommendations (e.g. family planning or instructions on anti-retroviral therapy for HIV positive mothers), or other factors (e.g. psychosocial stressors such as additional children or domestic violence; Naanyu et al., 2013; Ziyane & Thwala, 2010). These maternal factors as well as others were witnessed during participant observation. The literature from Kenya also documents maternal reports of gaps in newborn knowledge related to insufficient provision of newborn care recommendations by healthcare providers (Amolo et al., 2017; Rotich & Wolvaardt, 2017). Strategies to reinforce orally-provided recommendations and the timing of intermittently provided recommendations should be explored.

Although the recommendations on the discharge summary of both wards were written in English with some use of medical terminology, the nurses reviewed the recommendations orally with the mother or caretaker in Kiswahili. In addition, the MCH booklet, the information provided by the Pampers *Best for Baby* book, and the breastfeeding poster on the hallway of the PNW were also written in English. These study findings appear incongruent with the preference reported by the nurse-midwives

that the larger population prefers to communicate primarily in Kiswahili. Therefore, this may be disadvantageous to mothers or caretakers who prefer communicating in Kiswahili or those with lower health literacy proficiency. Although these resources also included pictures, an assessment of patient language preference for written instructions may help to increase maternal and caretaker uptake of newborn care recommendations (McTavish, Moore, Harper, & Lynch, 2010).

Primary review of the discharge summary with the spouse or caretaker in the absence of the mother is another concern as there is no assurance that comprehensive and correct information will be passed on to the mother. In addition, the short length of time in which the summary was reviewed should also be addressed.

The content of the group healthy talks or individual counseling provided by nurse-midwives to mothers or other caretakers varied and tended to include more maternal recommendations than newborn recommendations. This was likely due to the acute post-surgical health needs of the mothers while the term newborns were perceived to be healthy. While maternal health is important, due to time constraints and the need to prioritize maternal health needs in a limited amount of time, the content of the newborn care recommendations were minimal, largely subjective depending on nurse perception of maternal knowledge needs, or based on the recommendations written by the medical personnel for nurse-midwife review with the mother or caretaker.

Although patients on the C-Section ward were there for two to three days, there was no record of what recommendations were provided by other nursing or ancillary staff (other than the nutritionist's note) and if there was need for reinforcement or further

follow-up. Standardized policies, teaching aids, or continuing education offerings regarding the content of the newborn care recommendations maybe be helpful to reduce variation in newborn care recommendations.

It is curious that some nurse-midwives thought that providing written newborn instructions in Kiswahili would be unusual, especially given the propensity to provide oral instructions freely in Kiswahili. Literature on the nuances of language in Kenya documents that even after the end of British rule in 1963, complex linguistic relationships rooted in colonialism, elitism, and exclusionism have continued to shape language expression (Nabea, 2009). In Kenya, both English and Kiswahili are recognized as the languages of Kenya, however, English is the language used for official business and transactions, including health care, while Kiswahili is the national language (Sang, 2015). Therefore, although government, business, and judiciary matters are conducted in English, most people speak Kiswahili in their everyday lives (Sang, 2015).

Colloquially, although English and Kiswahili are both recognized by the government, Kiswahili is thought of as lesser than English because historically, only the very elite and educated spoke English. This further subverted tribal languages and dialects to an inferior status, despite the presence of over 40 traditional and recently emerging languages such as Sheng and Engsh (Githiora, 2016; Nabea, 2009). While English is taught in all schools (with more time allocated for English than Kiswahili), Nabea (2009) reports that because of the predominant propensity to speak and conduct informal everyday tasks in Kiswahili, most Kenyans (up to 75%) may not understand English as well as Kiswahili. Nabea (2009) also noted that historically, many Kenya

languages are not standardized for consistency in spelling and have no written materials. Because English is standardized and consistent, it is viewed as the superior language of communication. In addition, medical terminology is only taught in English (Nabea, 2009). Sang (2015) published a case study on the ability of a radio station in Kenya to bring information to people in their own language. They report that providing information to people in their preferred language promoted their ability to engage in discourse and may reduce health information barriers.

Despite the incongruence between the provision of oral newborn recommendations in Kiswahili and written instructions provided in English on the PNW, there is little published about levels of health literacy in Kenya or patients' language needs. In the PNW, the nurse-midwives reported that interpreter services were always available to translate care recommendations from English or even Kiswahili to mothers and families who spoke one of the multiple other tribal languages spoken in Kenya. Family members were used if the interpreter services were unavailable. While it was a strength of the hospital to provider interpreters, the nurse-midwives also reported that they could not be sure how much of the recommendations were translated correctly. Given the variability in content and provision of the nurse-midwife provided recommendations, the availability of interpreters, privacy and accuracy concerns if family members are used to translate, and time constraints in the PNW, considerations should be made for patients' language preference when providing oral and written newborn care recommendations. To reach language justice, Sang (2015) contends that topics related to science, technology, arts, and education should be incorporated into every Kenyan

language, borrowing words from English and Kiswahili if needed to improve the lives of those who speak a local language.

The next section discusses the factors that influenced the content and provision of the newborn care recommendations.

Research Question Two: Factors Influencing the Content and Provision of Newborn Care Recommendations

The major themes that emerged regarding the content and provision of the newborn care recommendations provided by the nurse-midwives were: *ward congestion; staff shortage; heavy workload;* the *prioritization of maternal health; the baby is not sick;* and *other approved sources.* The study findings suggest that as a whole, these themes emerged because of factors related to policies and norms to influence the content and provision of the nurse-midwife provided newborn care recommendations.

Congestion, Staff Shortage, and Heavy Workload

The *Linda Mama Scheme* was implemented in 2013 and sought to improve maternal and newborn health outcomes by removing user fees in public healthcare facilities to encourage access to, and use of skilled-care across the maternal-newborn care continuum (Lang'at & Mwanri, 2015; Pyone, Smith, & van den Broek, 2017). This led to an increase in mothers giving birth in publicly-funded skilled healthcare facilities (Tama et al., 2017; Wamalwa, 2015). While the goal of this policy was to address poor maternal and newborn health outcomes, the literature reports, however, that the *Linda Mama*

Scheme was compromised by, among other things, the failure of healthcare facilities to increase nurse-midwife staffing levels to account for the increase in maternal-newborn census after the removal of the user-fees (Lang'at & Mwanri, 2015; Pyone, et al., 2017; Wamalwa, 2015). This is consistent with study findings that at the RMBHK, nurse-midwife staffing levels were not commensurate with the increase in maternal-newborn census after the implementation of the *Linda Mama Scheme*. In this study, shortcomings in implementing this policy at the RMBHK contributed to the themes of *ward congestion, staff shortage,* and *heavy workload.* These were the most frequently cited themes that negatively affected the content and provision of the care recommendations.

All the nurse-midwives reported that factors related to their heavy workload most influenced the content and provision of their care recommendations. This indicates that the nurse-midwives understood that it was their role to provide mothers and caretakers with recommendations for home care of the newborn. This was also evidenced by the recommendations for breastfeeding and cord care that were provided on the written discharge summary from the C-Section ward, even though there was no area to write any recommendations for newborn care.

Poor staff attitudes and low morale due to staff shortages, supply shortages, and heavy workloads have been reported by Tama et al., (2017) and Wamalwa (2015) to have compromised the accessibility benefits of the *Linda Mama Scheme*. This study did not find that these factors influenced the content and provision of newborn care recommendations at the study site during the short time the study was conducted. There was not strong overall evidence of low employee morale or poor staff attitudes on the

PNW; the researcher found that nurse-midwives credited the administration for supporting them with the equipment and supplies they needed to provide patient care. Factors that contributed to the overall positive morale and staff attitudes that support collegial interdisciplinary teamwork on the PNW should be highlighted for translation to other postnatal settings in Kenya.

Despite the overall positive morale and teamwork on the PNW, in the study setting, some nurse-midwives expressed that they did not always feel supported by administrative decision-making regarding staffing shortages or increased workloads. The nurse-midwives expressed that this caused them internal moral distress because they felt they could not always give safe care to the mother or newborn, may miss nursing care, or experience mothers leaving before the nurse may have felt it was safe to do so. This was also supported in the findings that the nurse-midwives knew the newborn care recommendations but encountered situational barriers in the workplace that prevented them from giving the care they were legally responsible to provide and morally wanted to provide. Nurse-midwives expressed there was more they could do regarding newborn care and care recommendations but felt constrained by the congestion to be able to change anything. In a study conducted at MTRH, it was reported that overall morale within the general nursing staff at MTRH was low (Chebor, Simiyu, Tarus, Mangeni, & Obel, 2014). The authors recommended that engaging nurses through refresher courses, employee recognition, and decision-making may promote increased staff morale (Chebor et al., 2014). The researcher saw evidence of the implementation of all these initiatives at

the study site, however, staff shortages continued to be a persistent challenge and nurse-midwives continued to feel unheard.

Gitobu, Gichangi, and Mwanda (2018) report that despite the implementation of the *Linda Mama Scheme* in Kenya, there have been no significant changes in maternal and neonatal mortality rates in the two-year period before and after implementation of the policy in 2013. They suggested that, when developing strategies to address postnatal newborn health in the facility and community settings, additional ecological factors should be considered simultaneously, over and above access to care. In this regard, this study presents the novel theme, '*the baby is not sick,'* as presented in the findings and discussed below, as an area for further exploration that has not been previously documented in the literature.

Prioritization of Maternal Health and The Baby is Not Sick

In synthesizing the findings from participant observation, interviews, and relevant documents, it appears that the policies, goals, and objectives of the PNW favored the *prioritization of maternal health,* which may have minimized the well-newborn in the acute care setting, when *the baby is not sick.* While it was not inappropriate for mothers to receive the nursing care that their acuity required on the PNW, the overall lack of policies to guide care of well-newborns or set expectations regarding assessment and documentation of newborns' health contributed to a general ambiguity surrounding the well-newborns' status as a patient. Furthermore, because the newborn had no medical needs except for vaccinations, the general underlying thought that they were not sick may

have compromised the provision of comprehensive well-newborn home care recommendations, even among nurse-midwives who viewed the newborn as a patient. Finally, the prioritization of maternal health was also underscored when the mother was no longer a patient in the PNW but remained in the hostels to care for their sick newborn. Although these mothers were no longer patients on the PNW, the SVD PNW nurse-midwife obtained and logged the hostel mothers' vital signs once a day. However, no vital signs were routinely obtained or documented on the well-appearing newborn while on the PNW before discharge on either shift.

The high maternal census, acuity, and heavy workload due to staff shortages further minimized the newborn in the PNW setting. During discharge, the content and provision of newborn care recommendations was dependent on the nurse-midwife's assignment. Although most nurses that were interviewed reported comprehensive knowledge of the care recommendations that should be provided, all nurse-midwives reported that their workload prevented them from being able to provide teaching on all the newborn care recommendations at some point before discharge. As a result, most nurses reported that they prioritized recommendations such as exclusive breastfeeding, umbilical cord care, follow-up examinations, and danger signs with caution to seek care, as time permitted.

While there was strong teamwork when needed to respond to maternal health needs, provision of newborn care recommendations appeared secondary to maternal health concerns and the perception that the *baby is not sick*. It was the norm for nurse-

midwives to provide only minimal care and recommendations for the well-newborn, especially if they were helping a colleague with their discharges.

The findings that maternal health overshadowed the newborn was also supported by evidence in the educational institution setting, where the curriculum only minimally addressed well-newborn health and instead, focused extensively on maternal health or small or sick newborn health. In the nursing regulatory setting, omission of any newborn care practices or recommendations from the NCK clinical practice manual also supports this theme.

While the government has introduced national initiatives that focus heavily on improving maternal and sick-newborn health outcomes, these strategies are relatively new. Given the greater attention to maternal health in proportion to well-newborn health across the administrative, clinical, educational, or nursing regulatory setting, it is likely that the *prioritization of maternal health* when *the baby is not sick* is influenced by factors outside the scope of this study that are deeply entrenched in the study setting.

Kerber et al. (2007) suggests that globally, past policies have elevated the status mothers over newborns or children over infants. This is seen both at the local and national levels in Kenya. Although a strong, positive correlation between maternal health and neonatal health has been documented (Bhutta et al., 2010), the literature on maternal and newborn health disproportionally reports on maternal health and care of the newborn during the immediate postnatal period while little is published regarding newborns in the early to late postnatal period (Kerber et al., 2007). The findings from this study suggest the possibility of an inverse relationship between the degree of maternal acuity and the

provision of well-newborn health recommendations in the tertiary-level PNW referral setting. It is possible that efforts to address maternal mortality in the clinical setting when the mother is sick may result in the overshadowing of efforts to prevent future mortality in the well-appearing newborn. While the status of the well-appearing newborn may not be a concern in the immediate delivery setting, rates of postnatal follow-up are reported to be sub-optimal, increasing the risk of adverse effects for both the mother and newborn. This is counter to recommendations that promote linking maternal health and newborn health together across the care continuum.

Term well-newborns have the potential to develop complications at any time during the postnatal period and more likely when outside the healthcare facility. Therefore, nurse-midwives in acute care settings, such as the PNW, should consider how they may assist mothers and other caretakers to promote the continuum of care for the term newborn when the newborn is in the community setting. In 2013, Seboni and colleagues conducted a qualitative study using focus groups of 253 nurses, health service managers, patients, caretakers, community members, leaders, and other health professionals to understand the tasks and roles of nurses and midwives in eight sub-Saharan countries. The authors identified eight different roles, however, all participants focused on the role of the nurse-midwife in the acute care hospital setting, despite the highly autonomous role of the nurse-midwife in the community setting. In addition, while the roles of the nurse-midwives included health promotion and teaching, one unidentified role was that of the nurse-midwife in providing postnatal follow-up after discharge from the health facility, especially given that the majority of maternal and newborn mortality

occurs in the community setting (Seboni et al., 2013). It is clear that the substantial focus on maternal health while in the acute healthcare setting creates gaps in term well newborn care and minimizes the importance of regular and thorough assessments and counselling of the term newborn before discharge and follow-up in the community.

The theme, *the baby is not sick,* emerged from a statement by one of the interview participants in response to questions regarding the care or documentation that nurse-midwives perform on the well-newborn in the PNW. While this theme may have been influenced by broader policies that prioritized maternal health and deprioritized well-newborn health, there is evidence from the study to suggest that the prioritization of maternal health only partially influences the emergence of this theme. Through triangulation of interviews, participant observation, and researcher bracketing, the researcher became aware of aspects of the nurse-patient relationship and the maternal-newborn relationship in Kenya that are different from the researcher's experiences of these relationships in the U.S.

During the interviews where the participants said, "they are not sick babies," or, "the baby is not admitted," or, "the baby is not admitted, the baby doesn't have a file," the researcher became aware of inherent assumptions that she had made as a result of her experience working in the U.S. medical setting. In the researcher's work experience, all well-newborns are given an identification band, documented on, and constantly monitored around the clock for signs and symptoms of illness in the healthcare facility, even in the absence of signs or symptoms of being sick, or at low risk for developing an illness. These experiences also influenced the researcher-generated interview guide that

contained questions about how nurse-midwives cared for newborns and how newborn care was documented. The interviewees' responses gave the researcher pause to think, "yes, in these circumstances, the baby is not sick. Therefore, would the nurse-midwives need to do more for these babies?"

In addition, after being in the field, the researcher realized that in Kenya, care of the well-newborn in the hospital is primarily the mother's or caretaker's responsibility. The ethos of these statements and observations may reflect larger cultural differences between the U.S. perspective of the nursing care needs of a normal well-newborn in the healthcare facility setting and the nursing needs of a Kenyan well-newborn in the healthcare facility setting. In the U.S., it is possible that there is hyperactive monitoring of the well-appearing newborn, whereas in the African setting, Seboni et al. (2013) reports that the caretaker undertakes the role of providing cares for mother and newborn. If the baby is not sick, there is no perceived need to monitor a newborn who appears to be well, especially when the mother or caretaker is monitoring the newborn and there are more pressing nursing priorities.

The research on newborn and child development in Kenya also provides evidence of differences between the maternal-newborn relationships of Kenyan and U.S. mothers. Super and Harkness (1986) found that Kenyan mothers slept with their newborns next to them while mothers in the U.S. slept apart from their newborns. In addition, in Kenya, monitoring and rearing of the newborn is a family-wide responsibility, with caretakers or older siblings participating heavily in the newborn's care (Harkness et al., 2013). As a sign of respect, mothers may also be expected to rely on the newborn care advice of

caretakers, such as their mother-in-law (Talbert et al., 2016). The nurse-midwives reported that after a baby is born, the mother goes to her mother-in-law's house to observe a period of rest. They reported that this was a common occurrence, even for themselves when they had their children.

During participant observation, the researcher also observed evidence of the extended role of the Kenyan mother in caring for the newborn in the hospital-setting when compared to the American setting. In the study setting, NBU mothers were housed by the hospital in *hostels* on the SVD PNW so that they could be close to their sick newborns and provide care around the clock. At times when the NBU mothers came into the nurses' office on the SVD PNW for hot water, the mothers would ask the researcher about the environment of the NBU in the U.S. The researcher described that in the U.S., nurses performed the majority of the newborn cares and that mothers usually visited the newborn in the hospital for a short period during the day. The Kenyan NBU mothers were very surprised that the U.S. mothers were not the primary care provider for general newborn care such as diaper changes, feeding, and bathing, and that they did not stay in the hospital to care for their sick newborn.

While the study found evidence of cultural implications regarding *the baby is not sick* that may influence the content and provision of the care recommendations, there was not enough evidence to fully explore how these factors may have influenced the content and provision of nurse-midwife newborn care recommendations. Given that there continue to be gaps in the clinical and community setting that may impact neonatal mortality and that there are differences in maternal-newborn relationships and nurse-

patient care relationships between Kenya and the U.S., this is a novel area of future research to explore.

Regardless of the possible ambiguity surrounding the patient status of the well-newborn as a patient requiring a full assessment, vital signs, documentation beyond breastfeeding, or the nature of the maternal-newborn-caretaker relationship, Seboni and colleagues (2013) reported that a key role of the nurse-midwife in any health setting is health promotion. Given that in Kenya, rates of newborn mortality are high outside the healthcare facility setting, known rates of exclusive breastfeeding and attendance at newborn postnatal follow-up examinations are sub-optimal, and that mothers and newborns may be discharged earlier than the recommended 24-hours of observation after delivery, the PNW should consider objectives, policies, assessment, and documentation that facilitate close monitoring of the term well-newborn while in the hospital setting and vigorously promote evidence-based newborn home care recommendations.

Other Approved Sources

Although nurse-midwives provide the majority of the recommendations, on the C-Section ward, the recommendations were written by the medical personnel and reviewed by the nurse-midwives with the mothers and caretakers just prior to discharge. In this setting, some of the medical providers were only in the PNW for a two-week rotation yet were the primary providers of written recommendations for newborn home care.

When working with other providers such as the nutritionist, some nurse-midwives thought the information from the nutritionist was supplemental to nurse-midwife

recommendations while others thought they were the primary source of information regarding exclusive breastfeeding. The nurse-midwives on the PNW were very busy and it is a strength of MTRH that they coordinated with the on-site outpatient MCH clinic nurse-midwife to administer and advise mothers on newborn immunizations. It was also a strength that they allowed an external nurse-midwife affiliated with a private corporation to counsel mothers on general newborn care recommendations, which may even encourage mothers to deliver in a skilled-birth facility.

Maternal confusion regarding care recommendations has been documented when there are multiple sources and providers of recommendations (Hauck, Hall, & Jones, 2007). Nurses-midwives on the PNW should consider establishing policies and algorithms related to newborn care recommendations to ensure that the recommendations being provided by other PNW nurse-midwives, interdisciplinary providers, nurse-midwives from other wards within MTRH, and nurse-midwives from outside MTRH are providing the same recommendations and that they all align with MOH recommendations. As the source of most recommendations and the final recommendations prior to discharge, nurse-midwives should ensure that the information is consistent between providers and also be aware of the likelihood of family members or caretakers providing newborn care recommendations to mothers as well (Hauck et al., 2007). While it can be a strength that multiple healthcare providers repeat, reinforce, and review the care recommendations with mothers and caretakers, the interdisciplinary nature of the PNW makes it essential that all personnel provide seamless and consistent

information to reduce maternal or caretaker confusion, particularly surrounding return-to-clinic (RTC) dates.

This study documented the collaboration of a public hospital with a private, corporate entity to provide postnatal newborn care recommendations in addition to product advertising. It is important to ensure that the recommendations provided are congruent with best practice guidelines. Perhaps consideration of public-private partnerships to provide information on postnatal newborn care recommendations when there are gaps in publicly-funded healthcare services may be an effective way to provide newborn care recommendations and, as suggested by Sang (2015), an important source of information for caretakers who mistrust the medical system as a result of entrenched systemic or language barriers.

CRITIQUE OF ORIENTING FRAMEWORK

As an orienting framework for this study, Leininger's culture care theory (Leininger, 2002) guided formulation of the initial research questions, refinement of the data collection tools, and facilitated an iterative and hybridized inductive-deductive process of data analysis that allowed for a richer understanding of the themes that emerged (Fereday & Muir-Cochrane, 2006; Leininger, 2002). The CCT provided pre-determined and inter-related constructs as potential places to start studying the phenomena based on previous studies of the provision of nursing care while situated within the nursing paradigm. As an orienting framework, the CCT also allowed the researcher to then openly explore the phenomena through the organic identification of

additional potential factors that may also influence the provision of the newborn care recommendations in the study setting. Given that the study design was a rapid, focused ethnographical assessment, the CCT also aided the researcher to construct boundaries around the places, actors, events, and documents that were likely sources of key information on nursing care practice while encouraging an openness to additional and unexpected sources of data with potential to address the nursing care phenomena in question (Leininger, 2002).

This study found that the convergence and interplay of factors between the CCT *worldview, political and legal, continuing educational, ward values, beliefs, and lifeways,* and *professional care-cure practice* dimensions at different levels within the sunrise orienting framework influenced the major themes that emerged inductively from triangulation of the data. Because of this, the framework should be considered ecological in nature because of the multiple interactions between actors and factors within the different levels and layers.

The theme, *prioritization of maternal health* was the theme most represented by different dimensions of the sunrise orienting framework. The theme, *the baby is not sick* was also represented by several dimensions, however, the effects of this theme on the content and provision of the newborn care recommendations was more covert. *Ward congestion, staff shortage,* and *heavy workload* are perhaps the most visible themes and the most frequently cited by both participants and the literature as the greatest contributors to sub-optimal newborn care recommendation provision in the PNW. While the theme, *other approved sources,* also impacted the content and provision of nurse-

provided newborn care recommendations, determining the factors that influenced the emergence of this theme was outside the scope of this study.

The broad governmental strategies that led to the emergence of all the themes are examples of *worldview* and *political and legal factors.* In addition, PNW-ward specific factors from the *political and legal, continuing educational, and ward values, beliefs, and lifeways,* and *professional care-cure practices* dimensions also influenced the themes that emerged. Findings from the *political and legal* and *professional care-care practices* dimensions were also influential in the educational institution setting. Use of the sunrise orienting framework helped to situate the phenomena within a larger context that demonstrated the broad implications of upstream policies in affecting the phenomena downstream.

Overall, these dimensions within the CCT were applicable to the study, however, there is evidence from the findings to support adaptation of the CCT to better inform evidence-based interventions in the study setting. This study supports that *latent administrative factors, interdisciplinary factors,* and *other approved sources* be added as separate dimensions of the sunrise orienting framework for consideration when developing interventions to address nurse-midwife provision of newborn care recommendations on the PNW.

For one, the orienting framework does not consider latent administrative attitudes that do not neatly align in the political and legal factors dimension. This study provided evidence to support that *latent administrative factors* are different from the political and legal factors dimension because political and legal factors represent concrete factors that

stem from administrative decision-making, such as the delineation of policies, processes, or procedures. In this study, the findings can be used to define *latent administrative factors* as "the positive, negative, or neutral attitudes or administrative decisions that are made at the level of the nurse-midwife in-charge or higher, that directly or indirectly influence the provision of nurse-midwife newborn care recommendations." Such decisions could include the presence of latent concepts such as cognitive dissonance between nursing administration and staff nurse-midwives to describe discrepancies in nurse-midwife staffing needs. The literature also supports administrative factors as a dimension that may potentially influence postnatal nursing care and should be included with institutional-level factors as an influencer of the phenomena (Gitobu et al., 2018; Juma et al., 2014; Tama et al., 2017).

The study findings also support the addition of *interdisciplinary factors* within the sunrise orienting framework in this setting. *Interdisciplinary factors* are defined as "any sources or actors that influence the phenomena and are located in the study setting but are outside the study population." Interdisciplinary factors in this study represent formal healthcare providers who are staff members of the PNW but are not nurse-midwives, but who may also influence the content and provision of the recommendations that nurse-midwives provide.

Finally, the study findings support adaptation of the sunrise orienting framework to include *other approved sources*. In this setting, *other approved sources* are defined as "internal or external sources that are outside the PNW and are permitted to provide newborn care recommendations on the PNW." Other approved sources in this study

included the immunization nurse-midwives from the MCH clinic, the MOH booklet, or actors such as the nurse-midwife employed by Proctor and Gamble.

The proposed factors may have a positive, negative, or neutral influence on the content and provision of the newborn care recommendations but should be considered as important influential factors. The sunrise orienting framework includes the folk (generic) care dimension, which refers to the personal experiences of the nurse-midwife that may influence the content and provision of the newborn care recommendations. In this study, the nurse-midwives responded that this was an influencing factor regarding the recommendations they provided (e.g. breastfeeding advice), however, because of a language barrier on the part of the researcher, these findings could not be triangulated through participant observation and will require future study. Because there is evidence of underlying cultural factors that may have influenced the content and provision of care recommendations, the dimension of culture should be explored in more depth in future studies. Even though the study did not explicitly seek information about the *biological, kinship and social, religious, spiritual, and philosophical,* and *technological* dimensions of the framework, the framework could be adapted to remove these dimensions because no evidence of these dimensions emerged in the study setting related to the content and provision of newborn care recommendations (see Figure 27).

Another critique and irony of using the sunrise orienting framework to study patient care phenomena within the nursing ward is that it omits patient factors. In the study, there was evidence that patient factors such as maternal, paternal, or caretaker factors related to parity, literacy, or socioeconomic/sociocultural factors may have

influenced nurse-midwife provision of the newborn care recommendations, however, these aspects were not captured by the CCT. Further study of these factors is needed.

In addition, the CCT does not capture *power differentials* between healthcare providers and mothers or caretakers, or between different healthcare providers as a factor that may influence the content and provision of the care recommendations. In the past in Kenya, power differentials between nurse-midwives and patients have resulted in authoritarianism on the part of the nurse-midwife over a patient who may respond with subservience (Ojwang, Ogutu, & Matu, 2013). In general, this is counter to the altruistic nature of nursing as a helping profession and there is recognition that these negative attitudes may stem from reactions to larger ecological factors such as being over-worked, under-staffed, under-paid, and under-respected by other healthcare professionals or the public (Nzinga, McGivern, & English, 2018; Ojwang et al., 2013). While there is evidence to support cultural shifts aimed at addressing these power differentials in Kenya, patients may still experience episodes of power imbalances leading to feelings of powerlessness (Ojwang et al., 2013). Power differentials were not an overt finding in the study, likely due to the focus of the study on nurse-midwife provision of newborn care recommendations, exclusive of mothers and caretakers. Frameworks that are used to research patient care provision should include consideration of the power differentials that may exist between the patient and medical provider or between healthcare providers. It is imperative to account for how this may impact patient care.

The use of an orienting framework within the nursing paradigm was useful to guide the researcher in study of the manifest culture of the phenomenon. Based on the

study findings, the researcher questioned if an organizational framework or model (e.g. from functionalism theory) would be a better choice to study the phenomenon in future. While this kind of framework would include administrative decision making and some aspects of ward culture, it may likely omit patient factors as well. It is proposed that an organizational framework be combined with a framework that assesses patient cultural preferences with the consideration for power imbalance be used to study how nursing care is delivered in this study setting. This may lay the groundwork for a future theoretical model that can be tested for the presence of possible relationships, hierarchies, mediators, and moderators.

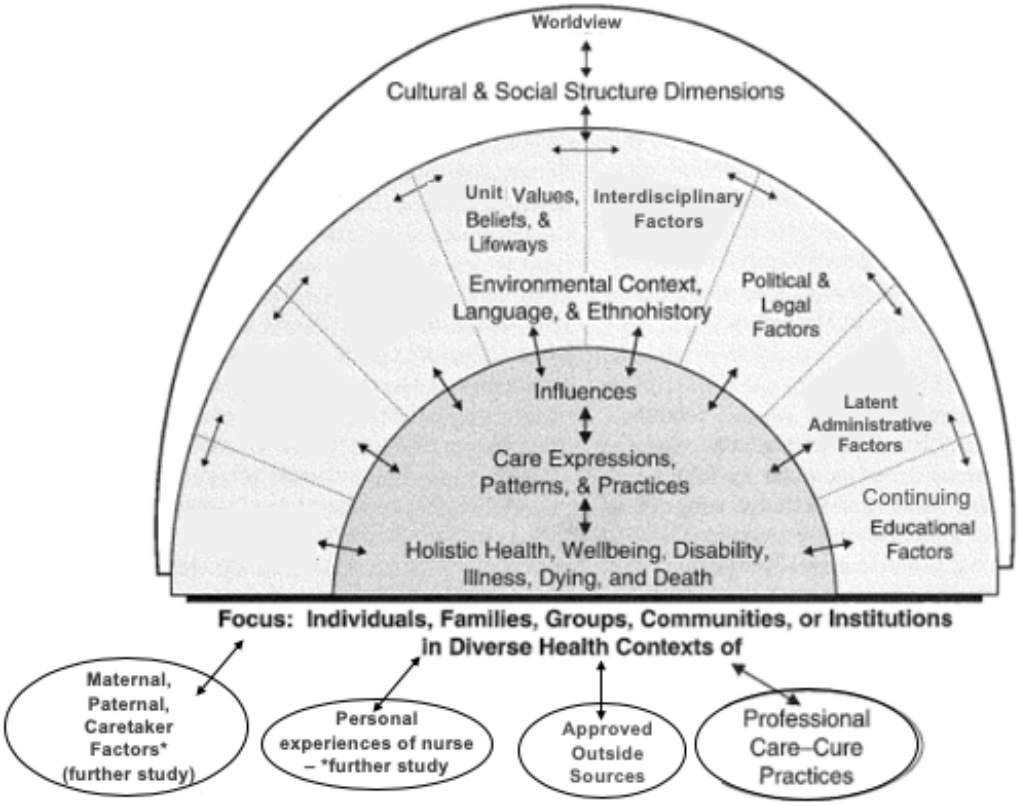


Figure 27. Adapted sunrise orienting framework

LIMITATIONS

This study was limited by a language barrier, which decreased the quality of the observations made during nurse-midwife interactions with mothers or caretakers. The study was also conducted over a short period time which may have limited the opportunities available to collect data. The Hawthorne effect, where participants may change their actions or behavior when consciously being observed may also decrease the validity of the study results (Polit & Beck, 2012). It is also possible that interview participants may have experienced recall bias (Polit & Beck, 2012). IRB approval was not received in time to meaningfully include participant observation data from the educational setting.

While the literature cites economic factors at the national and facility levels as additional factors in the failure to increase the allocation of additional nurse-midwife staff, this factor was not explored at length by the researcher due to the sensitive nature of inquiry regarding hospital finances in the study setting. Finally, the study findings report on factors that are supported by data collected on the PNW at one hospital and one School of Nursing in Western Kenya. While the findings are substantial, they are not all-inclusive and comprehensive. Therefore, they may have limited generalizability outside the study setting. As a public health nurse, the researcher's bias may have overestimated the potential benefits of facility-based interventions to address newborn health as the newborn transitions to the community setting.

IMPLICATIONS

Practice

This study has important practice implications in the clinical setting. As part of their legal job requirements, nurses in Kenya are required to implement the full nursing process when caring for patients, which includes assessment, planning, intervention, and evaluation for those under their care to promote patient safety and prevent harm (Nurses Act, 2011). Therefore, it is imperative that their workflow and patient assignment affords them the opportunity to provide these services to their patients at all times. During the hospital stay, nurses interact with the newborn and mother more than any other healthcare provider. At times they must perform tasks that detract from their ability to provide patient education, including the provision of newborn home care recommendations. It is critical that their interactions with patients effectively maximize patient care activities and the provision of health education. In addition to the heavy patient care workload, the study found that many nurse-midwives felt that administrative tasks or responsibilities related to maintaining a clean hospital environment took away from their patient care responsibilities. Investment by hospital administrators in providing ancillary staff to perform these duties will assist the nurse-midwives to function to the fullest extent of their training in a setting where healthcare provider capacity is already compromised.

Another important practice implication would be to address the frequent rotation of nurse-midwives to different hospital wards at the study site. The literature has discussed the role of specialized nurses in improving patient care outcomes due to their

knowledge regarding a specific care area (Kenner, Sugrue, Mubichi, Boycova, & Davidge, 2009). In the study setting, it was noted that the nurse-midwives were very familiar with maternal care and assessment, however, while they knew how to assess a newborn, they did not regularly apply that skill. Some participants also mentioned that while some nurse-midwives had specialized, Master's-level training in maternal-newborn care, these nurses may not be assigned to perform patient care duties but are instead assigned to administrative duties. It is important that such specialized knowledge is maximized clinically to improve newborn care practice.

As the last healthcare providers to interact with newborn caretakers before their discharge into the community setting, nurse-midwives are uniquely positioned to reinforce the oral newborn care recommendations that have been provided throughout their stay, review the written recommendations provided by the medical staff on the discharge summary, and provide additional individualized and substantive recommendations unique to each mother and newborn.

To prevent complications once the newborn is in the community, it is imperative that nurse-midwives have ample time to assess maternal and caretaker practices, answer questions, and evaluate return demonstrations as needed. While there is extensive documentation on the mother's health, notes about the newborn are made on the same maternal form and may be overlooked by subsequent healthcare providers, especially if the mother's disposition is complicated. The hospital should consider providing a separate form or section of the mother's form for documentation of newborn disposition to share

between healthcare providers in a variety of settings. A checklist may also ensure that comprehensive recommendations are provided in accordance with the MOH guidelines.

Over and above these facility-based practice implications, the nurses in this study felt that more should be done to follow-up with the newborn in the community. Through the interviews, they expressed concern for the newborn after discharge and desired to know how the newborn was doing after going home. Several nurses had previous work experience in the community setting and were aware of the importance and effectiveness of monitoring the newborn closely when in the community. This suggests the need to consider novel inter-site collaboration between the clinical and community setting; this is also supported in the literature (Seboni et al., 2013).

This study addressed the newborn care recommendations that are provided within the PNW, however, in Kenya, it is expected that newborn care recommendations are incorporated within provider visits during the full maternal-newborn care continuum, including the antenatal period. This study has demonstrated the need to improve the provision of newborn care recommendations during the postnatal period in the hospital setting and suggests further study in the community setting. Additional study of the provision of postnatal newborn care recommendations during the antenatal period should also be considered. During observations and informal interviews with staff at the antenatal clinic at MTRH one morning, the researcher learned that the antenatal clinic was also short-staffed and that there was little time to provide postnatal newborn care recommendations given the other antenatal nursing priorities. The researcher also observed that in the antenatal clinic, AMPATH staff were present to counsel HIV-

positive mothers. Perhaps a novel collaborative whereby AMPATH counselors provide counseling and teaching to all mothers on general postnatal newborn care might be advantageous. It is also possible that such a role adjustment may help to reduce the stigma of HIV if the counselors provided education to all mothers as opposed to only HIV-positive mothers. A prospective study of the provision of newborn care recommendations throughout the maternal-newborn care continuum and of collaboration with other actors present in the antenatal setting may be a consideration.

Education

Nurse-midwife knowledge of newborn assessment and early to late postnatal care recommendations was well demonstrated. There are several educational implications that may build on and improve these strengths. Considerable attention has focused on continuing education topics concerning the immediate care of the newborn to prevent or treat respiratory distress, however, continuing education should also address provision of comprehensive postnatal newborn care recommendations to include early to late postnatal danger signs. Education should also be provided to strengthen nurse newborn assessment skills to include auscultation and palpation (e.g. the recognition of a newborn heart murmur or weak pulse). Education on comprehensive newborn assessment may help nurses to better collaborate with medical personnel by alerting them to emerging health complications (e.g. cardiac or gastrointestinal) that may arise as newborns transition into the early postnatal period of two to seven days of life.

Further, the minimal amount of time dedicated to the well-newborn in the educational institutional setting should be addressed. While interviewing the nursing faculty, the researcher noticed that education on care of the well-newborn is situated between the medical specialties of obstetrics-midwifery and pediatrics. In the acute care obstetrics-midwifery setting, there is a focus on maternal health with only a small percentage of time focused on topics regarding care of well-newborns. In pediatrics, the focus is on the small, sick, or premature newborn, with a small percentage of time focused on care of well-newborns. This indicates a gap in these subject-areas where well-newborns may not receive adequate attention. No studies regarding this structural issue have been found in the literature. Addressing this educational and practice gap may contribute to overall improved postnatal newborn care for all newborns, as small, sick, or premature newborns need traditional and specialized home care recommendations as well. Nurse-midwife educators in the educational setting should collaborate with healthcare facility educators, mothers, and caretakers to assess where and how to expand the curriculum between these two subjects to ensure full coverage of the newborn period.

Policy

A formal policy that clarifies newborns' status as patients on the PNW will reduce confusion about nurse-midwife expectations for newborn assessment, care, and documentation. A policy that delineates the newborn care recommendations that must be provided by the nurse-midwife at discharge is recommended. Although some instructions will vary from patient to patient, standardization of the recommendations is a first step

towards comprehensive provision of nurse-midwife newborn care recommendations. While nurse-midwives may also use the MCH booklet, a facility-specific resource may be optimal so that new recommendations are more easily disseminated in real-time.

Policies to address ward congestion, staff shortage, and heavy workload will likely improve the content and provision of nurse-midwife provided recommendations. In addition, hospital policies for staffing levels or staff leaves should be revisited. Month-long vacation leaves for facility staff are advantageous, however, the vacation policy of having two nurse-midwives on leave at any given time effectively leaves the staffing levels at 90% in a ward that is already chronically understaffed. Reconsideration is needed by hospital administration to employ as-needed or part-time staff to mitigate these ongoing staffing concerns.

Research

This study exposed several areas for continued research in the areas of workplace studies, translation science, correlation studies, medical anthropological studies, studies of premature newborn nurse-midwife provided recommendations, and prospective multi-site studies between the acute clinical setting and the community setting that can inform large-scale studies on neonatal mortality. Workplace studies may include determining safe nurse-midwife staffing levels to provide comprehensive newborn care recommendations, use of a designated nurse-midwife to provide newborn assessment and care recommendations, or development of a tool to determine newborn discharge readiness. One researcher observation was the multiple, short transition points for the

newborn in the acute postnatal setting that were coupled with copious amounts of changes and information at each stage. For example, newborns were assessed in the labor ward and then, if deemed to be well, were transitioned to the PNW, where they may stay for a few more hours or days depending on maternal health needs. Shortly thereafter, they transitioned to the community setting where their follow-up was variable and again tied to maternal health needs. In the U.S., multiple transitions and handoffs when caring for the sick newborn, especially for short periods of time, causes fragmentation and has been associated with poorer health outcomes, missed care, errors, and confusion due to multiple breakdowns in effective communication (Gephart, 2013). No research was found on this topic in sub-Saharan Africa, therefore, this is an area in need of research.

Studies in translation science are needed to examine barriers to use of the MOH booklet in providing newborn care recommendations or updating healthcare provider policies to align with recommendations in the MOH booklet. Correlation studies are needed to examine the association between maternal health acuity and the provision of newborn care recommendations. Multi-site intervention studies are needed to explore acute care clinical partnerships with the community setting to optimize the newborn's transition to the community setting and capture measures of neonatal mortality. Medical anthropological studies are needed to better understand the positioning of the well-newborn in the Kenyan acute healthcare facility when the newborn is not sick but there is a need to address newborn health in settings where there is high neonatal mortality.

The study findings provide a baseline to understand the well-newborn care recommendations that nurse-midwives on the PNW provide to mothers and caretakers

prior to discharge from a tertiary-level, public healthcare facility in Western Kenya. In Kenya, a considerable amount of neonatal mortality also occurs in the premature and small newborn population after discharge into the community, however, little is known about the newborn care recommendations that premature newborn nurse-midwives provide. Therefore, similar research is needed on the newborn care recommendations that nurse-midwives provide to mothers and caretakers of premature newborns in Kenya. Studies on maternal knowledge and needs when caring for premature newborns at home are also warranted.

In this study, there was evidence that personal nurse-midwife factors (e.g. personal experience with their newborns at home) and maternal factors (e.g. parity) may influence the content and provision of the care recommendations, however, these topics did not meet saturation in the data that was collected. These are likely influential factors that should be further explored.

Finally, the maternal-newborn relationship in Kenya is very positive. Mothers were supported to be with their newborns in the PNW and the NBU. Research on these relationships and the supportive hospital environment that facilitates and supports these relationships should be explored for translation to the U.S. healthcare setting where facilitating healthy maternal-newborn relationships in the healthcare facility setting is not well understood.

ETHICAL CONSIDERATIONS OF CONDUCTING A STUDY IN A RESOURCE-LIMITED SETTING

Emanuel and colleagues (2004) describe a framework detailing eight ethical principles that should be considered when researchers from high-income settings conduct clinical or social research in limited-resource settings. The principles include: collaborative partnerships, social value, scientific validity, fair selection of study population, favorable risk-benefit ratio, independent review, informed consent, and respect for recruited participants and study communities (Emanuel, Wendler, Killen, & Grady, 2004).

Collaborative partnerships refer to the acceptability of the research to the community and the responsiveness of the research to community concerns (Emanuel et al., 2004). To meet this criteria, the researcher collaborated with the Dean of the MUSoN, who was a study collaborator and dissertation advisor. The researcher also contacted the Deputy Director of Nursing at MTRH for preliminary approval before traveling to the study sites. Both agreed that the study topic was valid in the research setting.

Social value refers to the generation of knowledge that can result in improvements to health outcomes (Emanuel et al., 2004). Once at MTRH, the researcher met with several levels of child-health, pediatric, and reproductive health administrators and ensured that they were in agreement regarding the usefulness of the study to broader study site objectives of addressing newborn health. One administrator remarked that it was a good baseline study to then replicate in the sick newborn population. While the researcher was upfront about study goals and objectives, she also conveyed the possibility to participants that if any change were to come from this study, it would likely be slow in forthcoming.

Scientific validity in this context refers to the usefulness of the research above and beyond standard measures of rigor. Study methods should be culturally appropriate, feasible, and appropriate for the setting (Emanuel et al., 2004). The nurse-midwives on the PNW welcomed the researcher but were unfamiliar with the methods of a focused ethnography even though the researcher explained the study objectives and methods several times during morning announcements and during other interactions. In the beginning, several nurse-midwives asked the researcher if she was doing a survey and many were surprised the researcher spent almost the entire shift with them almost every day. Initially, only a few nurse-midwives volunteered for interviews because they were uncomfortable with the nature of individual interviews being held in a private room (e.g. the boardroom) while being audio-recorded; they asked the researcher if they could do group interviews instead. Unfortunately, this was not possible because approval for group interviews was not included in the review board application. No amendments could be made to the ethical board approval because of time constraints. Once one nurse-midwife volunteered for the study however, other nurse-midwives began volunteering for the study as well, even scheduling when they wanted to be interviewed ahead of time. In addition, although the nurse-midwives were amiable to the researcher shadowing them, they appeared leery at first to the fieldnotes that the researcher made continuously throughout the day. To address this, the researcher always asked the nurse-midwives' permission to shadow them and take notes. No nurse-midwives declined and soon appeared comfortable with the persistent note-taking as they got used to the researcher's role on the ward. The researcher also sought verbal permission from the mothers or

caretakers via the nurse-midwife to observe their interactions with the nurse-midwives. None declined.

Fair subject selection includes selecting a population most able to benefit from the research and minimizing risk (Emanuel et al., 2004). The purposive sampling of PNW nurse-midwives, nursing administrators, and maternal-newborn health faculty helped the researcher to sample participants that were closest to the phenomena being studied. In addition, the researcher took measures to protect participant confidentiality at all times, including when writing up the research results (Morse & Coulehan, 2015).

Informed consent in this context refers to the principle that the benefits of the study must outweigh the risks (Emanuel et al., 2004). The informed consent for interview participants notified participants that although there were no inherent benefits to participating in the study, they may experience intrinsic personal benefits of possibly contributing to knowledge to address neonatal mortality in Western Kenya. Participants were also notified that there was a risk of being reported to their supervisor if they reported any job-related misconduct during the interview. No participants declined to be interviewed after receiving this information.

Independent review refers to ensuring that no other regulatory requirements or approvals are needed over and above ethical review board approval (Emanuel et al., 2004). In the study setting, the researcher was asked by the healthcare facility administration to obtain a temporary Kenyan nursing license to be present in patient-care areas, to which the researcher complied.

In addition to the usual rigor of informed consent, the researcher should ensure that appropriate language or idioms are used to obtain informed consent. Consideration should also be given to ensure participant incentives are not coercive (Emanuel et al., 2004). To meet this criteria, the researcher consulted with the Dean of the MUSoN and a Kenyan research coordinator to collaborate on the type and amount of the participant incentive that would be appropriate in the setting.

Finally, researchers should ensure they protect participant confidentiality, notify them of their right to withdraw, and inform them of new risks that arise (Emanuel et al., 2004). These criteria were all accounted for in the informed consent which all participants received a copy of. In addition, the researcher allowed the participants to review the interview questions prior to the start of the interview so they could ensure there were no hidden surprises or trick questions. No pictures were taken of anyone in the PNW (staff or patients) without their permission. Pictures were taken only if necessary and the researcher obscured any faces of patients. The staff that are photographed and included in this dissertation independently invited the researcher to take their photograph while doing their work.

ETHICAL CONSIDERATIONS FOR CROSS-CULTURAL QUALITATIVE RESEARCH IN THE HEALTHCARE SETTING

Molyneux and colleagues (2016) describe ethical considerations for conducting qualitative healthcare services research in a limited-resource, cross-cultural setting. They describe the role of trust and power inherent in such research, for example, where

healthcare providers may not truly have a choice to refuse participation when upper management may have already approved the research. At other times, controversy may arise regarding the ethics of collecting data outside the healthcare facility, for example, if invited for a meal with participants when outside the physical study setting. In addition, Krumer-Nevo and Sidi (2012) detail about writing against othering when there is the potential for gaps in social power between the researcher and research participants and the researcher is responsible for the interpretation of the meanings of their words and actions. In addition to the considerations detailed by Emanuel et al., (2004) above, the researcher tried to be conscious of these additional ethical dilemmas to minimize inherent power differentials during the conduct of the study and presenting the study results.

Because the researcher who conducted this study is also a nurse, she offered to help the nurse-midwives with patient care, if needed. This appeared to assist in building rapport with the nurse-midwives and other staff of the PNW. This also helped her to embed into the ward and become familiar with the daily routines. It was also helpful that the researcher was on a ward where she had rudimentary knowledge of nursing care of the postnatal mother and was unfamiliar with managing the heavy patient load. Because of this, the nurse-midwives taught the researcher how to care for patients on the ward. The researcher felt this helped to minimize the power dynamic that is inherent when researchers conduct research or perform education in cross-cultural settings where they may also be seen as experts, even in settings where they may be unfamiliar with the work routine or disease processes. In addition, even though the researcher was a newborn nurse, she was also unfamiliar with some newborn conditions that occur in this setting,

such as dehydration fever. In these surroundings, the nurse-midwives and other PNW staff were the experts and teachers. This dynamic was ideal for an ethnography.

While on the ward and before exiting the research site, the researcher wanted to give back to the nurses for allowing her to conduct the study on the ward. The researcher had anticipated that the nursing administrators or nurse-midwives would ask her to conduct continuing medical education, but no formal requests were made. Instead, nurse-midwives who were enrolled in Master's-level programs asked the researcher to review their work which was deemed to be helpful. In addition, the researcher also helped two staff members to submit an application for a WHO Innovation Award. Allowing the staff to dictate how the researcher could help and being collaborative also helped the researcher to build rapport and be accepted as much as was able.

Because of the novice level of the researcher, her initial interview questions followed the interview guide closely with minimal probing. She was sensitive to the fact that the interviewees took time out of their day to interview with her and knew they were nervous about being interviewed in a private room on audiotape; therefore, she wanted to complete the interviews as quickly as possible to put them at ease. Feedback from two of the researcher's advisors helped the researcher to slow down in the interviews, ask more probing questions, and also adapt the interview guide to better align the questions to obtain the data the researcher was seeking.

It is also possible that the repetitive nature of the researcher questions was perceived or interpreted as the researcher trying to find something wrong or "trick" the nurse-midwives. That is to say, the participants may have interpreted that the researcher

had come to the ward to point out all the things that they were doing wrong, and as a result, putting babies in harm's way or neglecting the babies. Studies have documented varying levels of distrustfulness that study participants in lower-income countries have of researchers from high-income countries conducting research in their countries or healthcare facilities, especially when results only highlight poor working conditions or neglect for patients from the researcher's perspective (Mkhwanazi, 2016). To mitigate this as much as possible, the researcher asked the participants to pretend that she was not a nurse and knew nothing about the healthcare setting. Therefore, she may need to ask questions that would seem obvious between healthcare providers. The researcher believed this aided in putting the participants at ease that she was not there to point out things that were wrong but to learn more about their work in their setting. After the researcher started asking the participants to pretend she was not a nurse, the participants seemed less annoyed when the researcher would ask them to repeat things or asked the questions in a different way because she wanted to understand their work.

At the end of the interviews, all the participants initially refused the participant thank-you, saying that it was not necessary. The researcher got the sense that there may have been a power dynamic in the researcher offering a monetary thank-you. The researcher told the participants it was OK to refuse the thank you, but also told the participants that their knowledge and expertise was critical to learning more about ways to address newborn mortality in Western Kenya. The researcher wanted to thank them for their time because she appreciated them participating and sharing their expertise. The researcher also brought baked goods that she had made one day and the staff of the PNW

were very appreciative. The researcher felt this helped to build rapport more than offering to help with patient care so she kept bringing baked goods or fruit to the ward a few times a week to share.

The nurse-midwives spoke Kiswahili during their interactions with each other and the mothers and caretakers. The researcher did not speak Kiswahili. The nurse-midwives offered to speak to the mothers in English (they reported that 80% of the mothers spoke English) for the sake of the researcher but the researcher declined because she did not want the participants to change their routine for her, or for a mother to misinterpret the nurse-midwives' instructions or agree to speak in English because of the power and presence of the researcher.

Finally, after the last nurse-midwife interview, the study participant thanked the researcher for coming and doing the study. Naturally, the researcher thanked the participant for being a part of the study, for being so welcoming, and also for being understanding in allowing the researcher to observe their work on the ward. Contrary to what the researcher had thought about how the nurse-midwives must have felt being constantly observed, the participant told the researcher that the nurse-midwives really appreciated her because she stayed with them. She said that other people from the West would have left when they started speaking in Kiswahili or expected them to speak in English, but that the researcher would always stay and let them converse without any expectation for them to speak in English because she was there. She also expressed appreciation that the researcher took tea with the nurse-midwives or ate with them because normally others would also leave during those times. The researcher was not

aware that any of these actions would build trust. Because methods of ethnography require constant observation, the researcher had thought that this might actually be perceived as intrusion during their break times. The nurse-midwife replied that at first it was strange that someone from the U.S. was there to observe them, but over time, because the researcher did not make suggestions to the nurse-midwives about what to do better or how to change or manage anything, they were more accepting of the researcher as "one of us," even questioning if, despite the researcher's physical features, she was African-American.

To address ethical concerns regarding data collected away from the study site (e.g. during social activities such as meals), the researcher allowed data (such as those regarding broader sociocultural norms) to emerge organically during the situation. Therefore, this was data shared voluntarily with the researcher without her prompting or asking specific study-related questions. For example, during lunch once outside the study setting, the researcher learned that many people in Kenya do not like to quantify their possessions because it may be regarded as being boastful. Therefore, if someone asked a Kenyan person how many cows they had, a Kenyan would rather say they have many cows, rather than say the actual number of cows because that was immodest. The researcher then used this type of information to triangulate with the nurse-midwives that some mothers in the hospital may not always answer with the number of children they have, as they would rather say many instead of the actual number.

The researcher conducted the bulk of data analysis and writing the study results outside the research setting. She was very aware that the interpretations she made and

how they were written may misrepresent or mischaracterize the phenomena or the nurse-midwives; this brought the researcher a lot of anxiety. Krumer-Nivo and Sidi (2012) detail that *othering* may be heightened by objectification, decontextualization, dehistorization, and deauthorization. Othering may present participants as objects instead of complex human beings, describe behavior singularly outside the context of broader social factors, focus on the present without linking behavior to historical events, and present data as authorless and one-sided. They suggest use of narrative, dialog, and reflexivity to minimize writing against othering. Narrative refers to the situating of phenomena or behavior within the natural setting that then influences the manifestation of the phenomena or behavior. Dialog refers to the variety of perspectives expressed to represent the phenomena. Reflexivity has been previously detailed. When performing data collection, conducting data analysis, and writing the study results, the researcher used the concepts of narrative, dialog, and reflexivity and bracketing to minimize the effects of othering. She also attempted to complete member checking with several interview study participants, however, was only able to successfully coordinate member checking with the Kenyan dissertation committee member after she left the study setting. Use of the dimensions within the CCT as an orienting framework, though lacking power differentials as a concept, also helped guide the researcher to construct narrative and dialogue around the phenomena in the natural environment.

SUMMARY

In Kenya, high rates of neonatal mortality remain a pressing concern. It is encouraging that after decades of incremental progress in reducing neonatal mortality rates, the government of Kenya has prioritized neonatal health and invested in strategies that aim to improve health outcomes for mothers and newborns. Despite these initiatives, Kenya is unlikely to meet its target of reducing neonatal mortality rates to 12 deaths per 1,000 live births by 2030. The government's focus on improving maternal and sick newborn health outcomes may have neglected to emphasize the need for healthcare providers such as nurse-midwives to provide comprehensive newborn care recommendations to prevent mortality in the well-newborn as they transition from the healthcare setting to the community setting during the full postnatal period.

This qualitative, rapid ethnographic assessment study included 240 hours of participant observation, generated 268 fieldnotes, collected 34 relevant documents, and resulted in 24 interviews of nurse-midwives, nursing administrators, nursing faculty, and a medical registrar. Thematic data analysis provided evidence to support that broad governmental policies and facility- and ward-level factors interacted to influence the emergence of six themes regarding nurse-midwife provision of newborn care recommendations on the PNW of a tertiary-level referral hospital in Western Kenya. The key themes were: *ward congestion, staff shortage, heavy workload,* the *prioritization of maternal health, the baby is not sick,* and *other approved sources*. While some themes have been previously documented in the literature, the theme, *the baby is not* sick is novel to this study. The correlation of maternal health acuity and provision of well-

newborn care recommendations is also a novel relationship that warrants further exploration. Recommendations for nursing practice, education, policy, and research regarding the study findings were discussed.

Appendices

APPENDIX 1. INSTITUTIONAL REVIEW BOARD APPROVAL, THE UNIVERSITY OF TEXAS AT AUSTIN.

OFFICE OF RESEARCH SUPPORT & COMPLIANCE

THE UNIVERSITY OF TEXAS AT AUSTIN

P.O. Box 7426, Austin, Texas 78713 · Mail Code A3200
(512) 471-8871 · FAX (512) 471-8873

FWA # 00002030

Date: 10/05/2018
PI: Davika Reid
Dept: Nursing
Title: Nurse and nurse-midwife provided postnatal newborn care recommendations in Kenya.

Re: IRB Exempt Determination for Protocol Number 2018-04-0044

Dear Davika Reid,

Recognition of Exempt status based on 45 CFR 46.101(b)(2).

Qualifying Period: 10/05/2018 to 10/04/2021. Expires 12 a.m. [midnight] of this date. A continuing review report must be submitted in three years if the research is ongoing.

Responsibilities of the Principal Investigator:

Research that is determined to be Exempt from Institutional Review Board (IRB) review is not exempt from ensuring protection of human subjects. The Principal Investigator (PI) is responsible for the following throughout the conduct of the research study:

1. Assuring that all investigators and co-principal investigators are trained in the ethical principles, relevant federal regulations, and institutional policies governing human subject research.
2. Disclosing to the subjects that the activities involve research and that participation is voluntary during the informed consent process.
3. Providing subjects with pertinent information (e.g., risks and benefits, contact information for investigators and RSC) and ensuring that human subjects will voluntarily consent to participate in the research when appropriate (e.g., surveys, interviews).
4. Assuring the subjects will be selected equitably, so that the risks and benefits of the research are justly distributed.
5. Assuring that the IRB will be immediately informed of any information or unanticipated problems that may increase the risk to the subjects and cause the category of review to be reclassified to expedited or full board review.
6. Assuring that the IRB will be immediately informed of any complaints from subjects regarding their risks and benefits.
7. Assuring that the privacy of the subjects and the confidentiality of the research data will be maintained appropriately to ensure minimal risks to subjects.
8. Reporting, by submission of an amendment request, any changes in the research study that alter the level of risk to subjects.

These criteria are specified in the PI Assurance Statement that must be signed before determination of exempt status will be granted. The PI's signature acknowledges that they understand and accept these conditions. Refer to the Office of Research Support & Compliance (RSC) website www.utexas.edu/irb for specific information on training, voluntary informed consent, privacy, and how to notify the IRB of unanticipated problems.

1. Closure: Upon completion of the research study, a Closure Report must be submitted to the RSC.

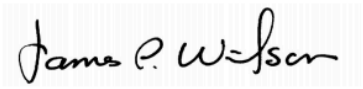
2. Unanticipated Problems: Any unanticipated problems or complaints must be reported to the IRB/RSC immediately. Further information concerning unanticipated problems can be found in the IRB Policies and Procedure Manual.

3. Continuing Review: A Continuing Review Report must be submitted if the study will continue beyond the three year qualifying period.

4. Amendments: Modifications that affect the exempt category or the criteria for exempt determination must be submitted as an amendment. Investigators are strongly encouraged to contact the IRB Program Coordinator(s) to describe any changes prior to submitting an amendment. The IRB Program Coordinator(s) can help investigators determine if a formal amendment is necessary or if the modification does not require a formal amendment process.

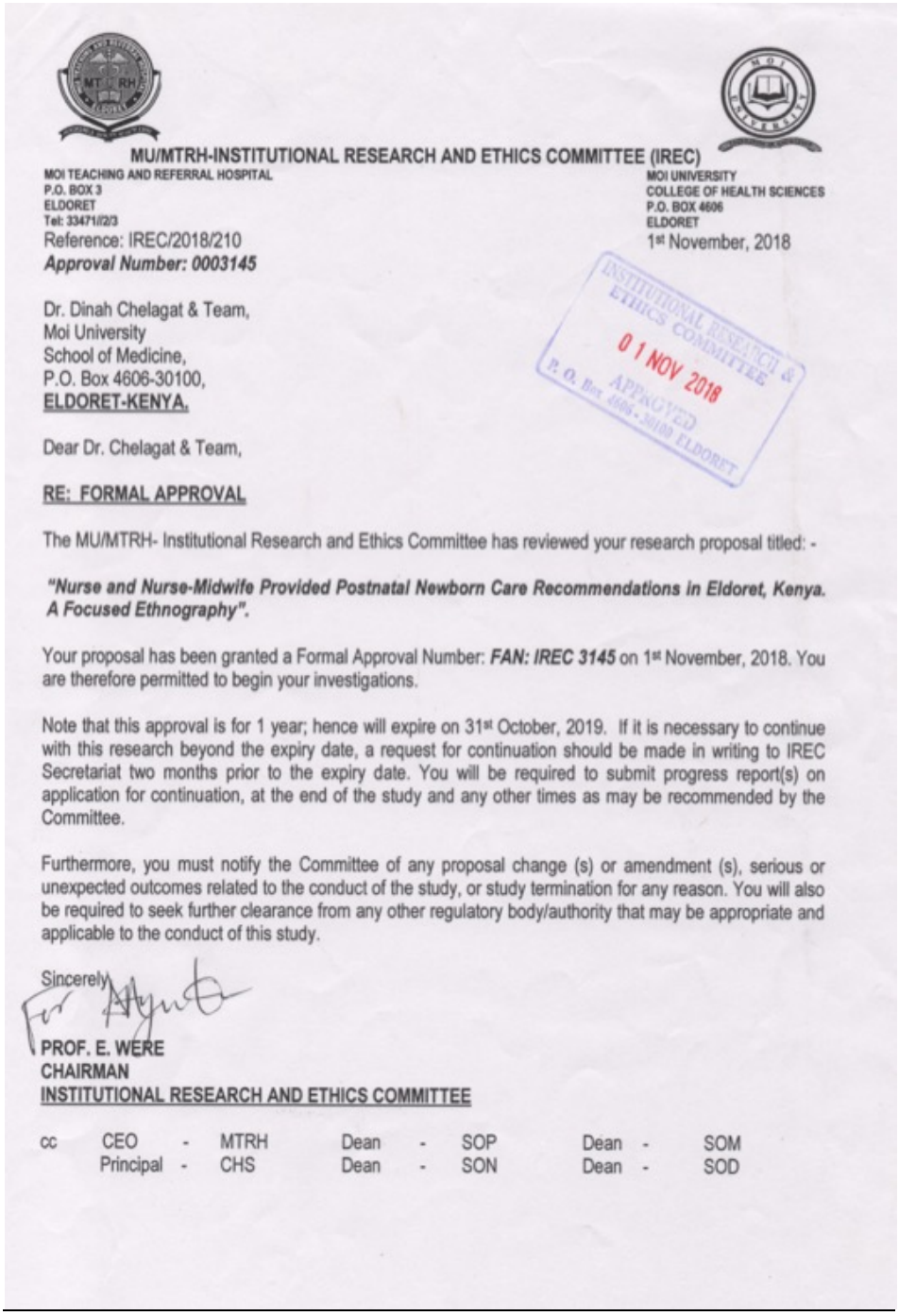
If you have any questions contact the RSC by phone at (512) 471-8871 or via e-mail at orsc@uts.cc.utexas.edu.

Sincerely,



James Wilson, Ph.D.
Institutional Review Board Chair

APPENDIX 2. APPROVAL FROM INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE, MOI UNIVERSITY AND MOI UNIVERSITY TEACHING AND REFERRAL HOSPITAL.



MU/MTRH-INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471/2/3

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET

Reference: IREC/2018/210
Approval Number: 0003145

1st November, 2018

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE
01 NOV 2018
APPROVED
P. O. Box 4606-30100 ELDORET

Dr. Dinah Chelagat & Team,
Moi University
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Dr. Chelagat & Team,

RE: FORMAL APPROVAL

The MU/MTRH- Institutional Research and Ethics Committee has reviewed your research proposal titled: -

"Nurse and Nurse-Midwife Provided Postnatal Newborn Care Recommendations in Eldoret, Kenya. A Focused Ethnography".

Your proposal has been granted a Formal Approval Number: ***FAN: IREC 3145*** on 1st November, 2018. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; hence will expire on 31st October, 2019. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date. You will be required to submit progress report(s) on application for continuation, at the end of the study and any other times as may be recommended by the Committee.

Furthermore, you must notify the Committee of any proposal change (s) or amendment (s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. You will also be required to seek further clearance from any other regulatory body/authority that may be appropriate and applicable to the conduct of this study.

Sincerely,

PROF. E. WERE
CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc CEO - MTRH Dean - SOP Dean - SOM
Principal - CHS Dean - SON Dean - SOD

APPENDIX 3. APPROVAL FROM THE CEO OF MOI UNIVERSITY TEACHING AND REFERRAL HOSPITAL.

An ISO 9001:2015 Certified Hospital

MOI TEACHING AND REFERRAL HOSPITAL

Telephone :(+254)053-2033471/2/3/4
Mobile: 722-201277/0722-209795/0734-600461/0734-683361
Fax: 053-2061749
Email: ceo@mtrh.go.ke/directorsofficemtrh@gmail.com

Nandi Road
P.O. Box 3 – 30100
ELDORET, KENYA

Ref: ELD/MTRH/R&P/10/2/V.2/2010

12th November, 2018

Dr. Dinah Chelagat & Team,
Moi University
School of Medicine,
P.O. Box 4606-30100
ELDORET-KENYA.

APPROVAL TO CONDUCT RESEARCH AT MTRH

Upon obtaining approval from the Institutional Research and Ethics Committee (IREC) to conduct your research proposal titled:-

"Nurse and Nurse-Midwife Provided Postnatal Newborn Care Recommendations in Eldoret, Kenya. A Focused Ethnography".

You are hereby permitted to commence your investigation at Moi Teaching and Referral Hospital.

13·11·18

DR. WILSON K. ARUASA, *MBS*
CHIEF EXECUTIVE OFFICER
MOI TEACHING AND REFERRAL HOSPITAL

cc - Senior Director, (CS)
- Director of Nursing Services (DNS)
- HOD, HRISM

APPENDIX 4. APPROVAL FROM DEPUTY DIRECTOR OF NURSING AT MOI TEACHING AND REFERRAL HOSPITAL GRANTING PERMISSION TO CONDUCT STUDY AFTER IREC APPROVAL

[redacted] Apr 16, 2018, 5:49 AM

to me

Dear Davika

Thanks for your email.

Congratulations for your doctoral studies in nursing and more so for choosing our hospital as your study site.

I am glad you are conversant with the requirements of IREC approval and the Nursing Council of Kenya Licensing for all nurses handling any patients in our country.

Kindly go ahead and apply for renewal as the license could be short term or long term depending on how long you wish to be in Kenya.This will enable you to interact with the nurses and equally guide in care if need be in the course of your study at our hospital.

Once your proposal is approved by IREC we will support you to accomplish the study from the nursing Directorate and look forward to discussing findings and any arising issues in view of improving the nursing care we provide to our neonatal patients/clients.

I am on whatsap on my safaricom line [redacted]

Best Regards

[redacted]

Deputy Director Nursing - Clinical Services
Moi Teaching & Referral Hospital - Eldoret, Kenya.

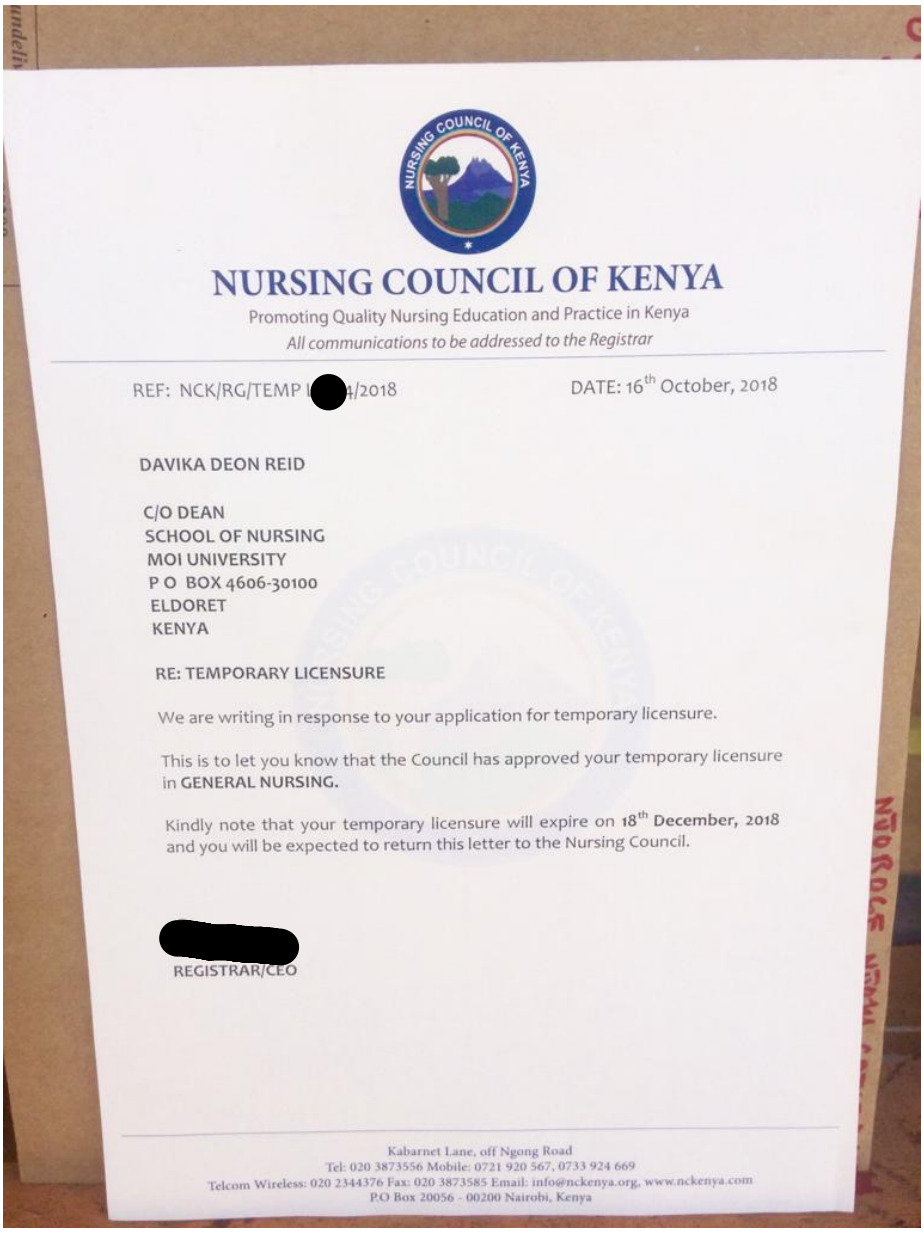
Mobile :
Email :

APPENDIX 5. APPROVAL FROM DEAN OF MOI UNIVERSITY SCHOOL OF NURSING CONFIRMING COLLABORATION

[redacted] Feb 11, 2018, 1:43 PM

Dear Davika,
Hope this finds you doing well. We are also doing well here in Kenya.
Thank you for your mail requesting me to be one of the collaborators in your proposed study. I write to confirm that I will be glad to work with you as you do the study here in Eldoret. My area of interest is postnatal care and this fits well with me.
I have two suggestions for you to change on the proposal. The Relley Hospital is for Moi Teaching and Refferral and not Moi University. On your time line you have indiated dessimination as for January 2018 instead of January 2019.
Regards.
[redacted]

APPENDIX 6. TEMPORARY KENYAN NURSE LICENSURE



NURSING COUNCIL OF KENYA

Promoting Quality Nursing Education and Practice in Kenya

All communications to be addressed to the Registrar

REF: NCK/RG/TEMP [redacted]/2018 DATE: 16th October, 2018

DAVIKA DEON REID

C/O DEAN
SCHOOL OF NURSING
MOI UNIVERSITY
P O BOX 4606-30100
ELDORET
KENYA

RE: TEMPORARY LICENSURE

We are writing in response to your application for temporary licensure.

This is to let you know that the Council has approved your temporary licensure in **GENERAL NURSING.**

Kindly note that your temporary licensure will expire on **18th December, 2018** and you will be expected to return this letter to the Nursing Council.

[redacted]
REGISTRAR/CEO

Kabarnet Lane, off Ngong Road
Tel: 020 3873556 Mobile: 0721 920 567, 0733 924 669
Telcom Wireless: 020 2344376 Fax: 020 3873585 Email: info@nckenya.org, www.nckenya.com
P.O Box 20056 - 00200 Nairobi, Kenya

APPENDIX 7. SAMPLE EMAIL SCRIPT FOR RECRUITING FACULTY AT MOI UNIVERSITY

Dear Maternal-Child Health Faculty Member,

My name is Davika Reid and I am a doctoral student in nursing and a newborn intensive care nurse from Austin, Texas. I am fortunate to be collaborating with Dean Chelagat to conduct a study that examines the newborn care recommendations that nurses and nurse-midwives give to families before they are discharged from the birth facility. I will also examine sociocultural, environmental, economic, and educational factors that may also influence the care recommendations. The results from this study are intended to contribute to understanding newborn care in Kenya.

As maternal-child nursing faculty, you play a critical role in educating nursing students who will assist families to care for their newborns after discharge from the birth facility and in ameliorating high rates of newborn mortality. I would like to interview you because you are a member of the maternal-child health faculty. The interview will focus on the newborn care recommendations that are included in your curriculum, and the context for the content and provision of the care recommendations that are given by nurses in the care setting. I anticipate that the interview will take approximately 60-90 minutes.

Your participation in the study is voluntary and will be confidential. Although the interview will be audio-recorded, we will ask for your permission to conduct the interview and your name will never be associated with the interview or the data that is collected from the interview. The interview will be scheduled outside of work hours and you will be compensated 1,500 Kenyan shillings in cash for your time and travel.

If you would like to participate, please contact me via Whatsapp at 805-252-9957, or email at davika.reid@utexas.edu.

Kind Regards,
Davika Reid, MSN, RN

APPENDIX 8. SCRIPT AND INTERVIEW QUESTIONS: NURSES AND NURSE-MIDWIVES

Interview Guide: Nurses

Thank you for meeting with me today. I wanted to interview you because you are an expert in the field and have a lot to contribute to the topic.

Opening question(s): establish a sense of community

1. How did you come to work in the postnatal unit?
2. What do you enjoy most about caring for mothers and babies?

Introductory Question(s): starts to introduce the general topic of discussion and provide participant opportunity to reflect on experiences and connection to overall topic.

Introduce topic: Nurses in the hospital usually help mothers to take care of their baby and teach mothers or other caretakers about how to take care of the baby at home. I would like to ask you about the recommendations that you give to mothers or other people who will take care of the baby at home.

Transition Questions: Move the conversation towards the key questions that drive the study. Help participants envision the topic in a broader scope. Link between participant and topic of investigation.

3. Walk me through a normal day for you.
    - What things do you do to care for the baby? How often are they done?
    - What things does the mother or other family members do?
    - What are your priorities for your nursing care?
    - How is your care documented?

4.What nursing care do you prioritize? What nursing care does your unit prioritize?

5. Think back about when you learned about how to teach a mother to take care of her baby at home. What did you learn in school about providing newborn care?

6. When you started working in the hospital, what additional training did you receive? Was it on the job? Was it more formal than that? What was your orientation like?

7. Tell me about any continuing education that you receive at your workplace regarding postnatal newborn care. **Probe:** How often do you receive this kind of education?

8. If you have a question on a care practice, where do you find information about the most up-to-date postnatal newborn care practices?

Key Questions: usually the first to be developed and take the greatest amount of analysis. Take up the most time. May need additional probes/pauses. Start about 1/3-1/2 way into the questions.

9. When do you start to talk to the mother (or family) about how to take care of the baby at home? Probe: Is it typically done little by little or all at once? Are there certain education topics you give earlier or some you wait until closer to discharge?

10. What do you recommend to them about how to take care of the baby at home?

11. What is the most important thing you tell the moms about taking care of their baby at home?

12. Tell me what happens when you come across a language barrier?
    Probe: Are the nurses always able to communicate to the patients?
    Probe: What do you do if there is a language barrier?
    Probe: What do you do if there are other barriers (ie: psych).

13. How do you collaborate with the doctors on postnatal newborn care or discharge? In what ways?

14. How much of your own personal experience, taking care of babies in your own life, influences what you teach to moms?
For example, how to soothe a crying baby or what to feed the baby if the mother doesn't have enough milk? Tell me about what might have influenced how you learned about these recommendations.

15. What factors do you consider when you give newborn recommendations? (i.e: mother's age, housing)

16. If a mother has other babies at home, how does that influence the recommendations you provide to her?

17. If the baby's father or other male is in the room, how does that influence how much postnatal care recommendations you provide to her?

18. What are other things that you think might influence the care recommendations you provide?

19. Sometimes a family may ask a question about baby care that you may not know how to answer, tell me about what you would do in those circumstances? **Probe:** Do you look it up online, in text books, or maybe ask another nurse?

20. Sometimes it may not be clear that a patient understands your teaching, how do you check the mother's understanding of the newborn care you've told her about?

21. We all experience challenges in our workplace from time to time. Can you describe any challenges that may impact postnatal newborn care?

Probe: What about challenges that may impact the recommendations that are given to families before they take the baby home?

Probe: Does providing instructions to the mothers about how to take care of themselves during the postnatal period impact the recommendations you provide?

22. Are there policies, guidelines, or resources such as the MOH MCH booklet that you use to provide postnatal newborn recommendations?

If **yes**, probe: Tell me more about them. Are they helpful/adequate/updated? How do you find out if there is new information?

If **no**, probe: What might be helpful to you to help you to provide the recommendations?

Ending Questions: questions to bring closure to the discussion, enable participants to reflect on previous comments.

23. Thank you for sharing your insights with me. As we finish, I'd like to ask you what you think is the most important thing we discussed today that may improve postnatal newborn health.

24. **Summary Question:** Asked after the interviewer gives a short summary of the interview.
How well does that capture what you've said?

25. Is there anything you would like to say or add before we end?

Thank you for participating in this interview.

APPENDIX 9. SCRIPT AND INTERVIEW GUIDE: HOSPITAL ADMINISTRATION

Thank you for meeting with me today.

1. What is your title and how long have you been in this job? How did you come to work in your current role?

Introduce topic: Nurses in the hospital usually help mothers to take care of their baby and also teach them about how to take care of the baby at home. I would like to know about your work that might impact the postnatal work the nurses do.

2. Describe how your role influences postnatal care at the RMBHK?

3. Tell me about the newborn postnatal care unit. Can you give me an overview of the unit?

Probe: How many babies are born?
Probe: How many babies does the nurse care for?
Probe: How many nurses work on the unit, including those that are on leave?

4. Tell me about how the postnatal unit at the RMBHK manages newborn health during the postnatal period. Probe: In what ways does the staff in the postnatal newborn unit try to ensure that families know how to take care of the newborn at home?

5. What newborn care recommendations do the nurses follow? How were the recommendations developed?

6. At what point in the hospital stay does the nurse start to talk to the mother (or family) about how to take care of the baby at home?

Probe: Do the nurses do the teaching about how to care for the baby in one sitting or little by little? What education about caring for the baby at home can be taught earlier to the mothers and what topics are only given at discharge?

8. What is the most important thing your nurses tell the moms about taking care of their baby at home?

9. What would you identify as the top three strengths of the postnatal newborn unit at RMBHK when thinking about postnatal discharge teaching?

10. What would you identify as the top three challenges of the postnatal newborn unit at RMBHK when thinking about postnatal discharge teaching?

11. As an administrator, are there goals set by the hospital or other administrators (i.e: Ministry of Health) that you have to meet? If so,

Probe: Do any of those goals related to postnatal newborn care?
Probe: How are those evaluated or measured?

12. How is staffing decided in the postnatal wards, e.g., one with mothers who have had C-Sections and another for mothers who had a standard vaginal delivery (SVD)? Who set these numbers?

Probe: Do nurses who do not normally work with newborns sometimes take care of newborns?
Probe: What happens when there aren't enough nursing staff to provide the postnatal care recommendations to families?

13. Is there enough time for the nursing staff to provide the postnatal care recommendations to families before they are sent home?

Probe: How might you know this?

14. What policies, guidelines, or resources do the nurses use or have access to in order to teach mothers how to care for newborns at home?

Probe: How helpful/adequate/updated are they?

15. What continuing education is provided to nurses at the hospital regarding providing recommendations for postnatal newborn care?

Probe: Who might provide such education or training?

16. If a problem is identified in the ways that the recommendations are given, how is that managed?

Probe: How is quality improvement managed?

16. Recently, there have been work stoppages by the nurses. Tell me more about the work stoppages. What did this mean for mothers and newborns? (This question was later removed).

17. What you think is the most important thing for me to know about how nurses teach mothers to care for babies at home?

18. **Summarize what they have said**: How well does that capture what you've said?

19. Is there anything you would like to say or add before we end?

Thank you for participating in this interview.

APPENDIX 10. SCRIPT AND INTERVIEW QUESTIONS: NURSING FACULTY

Thank you for participating in an interview with me. I would like to learn more about what nursing students learn about newborn care. I am going to be mostly asking about the 24 hours of life after birth until when the baby is six weeks of life. I have asked to interview you because you are an expert in this area and teach at the school of nursing.

1. How did you come to work at the Moi School of Nursing? How long have you taught here?

2. What do you enjoy most about teaching students to care for mothers and babies?

3. Describe your experiences working with mothers or newborns before you started teaching and your contact with mothers and newborns now. What experience is needed for clinical faculty?

4. Tell me about the role of nurses during the postnatal period in Kenya.

5. What does the curriculum for the BSNs cover about newborn care? Teaching for new moms?

- Probe: What objectives do they have?
- Probe: What assignments?
- Probe: What books?
- Probe: How is the information taught?
- Probe: How much time is allowed for this topic?

6. How was the curriculum developed? What guided the curriculum? What is the process like for reviewing or updating, or changing it?

7. What is the clinical experience like for students?

- Probe: How do you make clinical assignments?
- Probe: What are the students expected to do?
- Probe: What opportunities do they have to teach or discharge moms and babies?

8. Tell me about the curriculum for the MSN in maternal-newborn health. How is it different from the undergraduate maternal-newborn health curriculum?

9. How does multidisciplinary education COBES incorporate postnatal care? Is there transdisciplinary training regarding postnatal newborn recommendations?

10. How does your newborn curriculum address traditional or cultural differences in newborn practices?

11. What policies, guidelines, or resources do you use in your curriculum to teach the current postnatal newborn recommendations?

Probe: How helpful/adequate/updated are they? What might be helpful to you to help you to provide the recommendations?

12. Sometimes continuing education is offered regarding postnatal newborn care. What continuing education about newborn care is available to the faculty.

13. Where do you get information about the most current postnatal newborn care practices?

14. Is there anything important to postnatal care that we didn't talk about but that you would want me to know?

Summarize interview, then ask, how well does that capture what you've said?

Thank you for participating in this interview.

APPENDIX 11. DEMOGRAPHIC SURVEY

1. What is your age?

2. What is your gender?

3. What department and/or unit do you work in?

4. What is your current job title:

5. How many years have you worked in this role?

6. What is your highest level of education?

7. Do you have any specialty training?

8. How many years of experience do you have in previous role(s) related to your current role?

APPENDIX 12. INTERVIEW PARTICIPANT INFORMED CONSENT.

MOI UNIVERSITY COLLEGE OF HEALTH SCIENCES / MOI TEACHING AND REFERRAL HOSPITAL
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC) INFORMED CONSENT FORM (ICF)

Study Title: Nurse and Nurse-Midwife Provided Postnatal Newborn Care Recommendations in Eldoret, Kenya: A Focused Ethnography

Name of Principal Investigator(s): Davika Reid, MSN, RN

Co-Investigators: Dr. Dinah Chelagat, PhD, RN

Name of Organization: The University of Texas at Austin, School of Nursing; Moi University, School of Nursing
Name of Sponsor: N/A

Informed Consent Form for: Nurse faculty at the Moi University School of Nursing; nurses and nurse midwives caring for newborns at the Riley Mother Baby Hospital of Kenya; clinical or administrative staff providing or overseeing direct or indirect care for newborns at the Riley Mother Baby Hospital of Kenya

This Informed Consent Form has one part:

- Information Sheet (to share information about the study with you)

*You may keep this information sheet

Part I: Information Sheet

Introduction:

You are being asked to take part in a research study. This information is provided to tell you about the study. Please read this form carefully. You will be given a chance to ask questions. If you decide to be in the study, you will be given a copy of this information form for your records.

Taking part in this research study is voluntary. You may choose not to take part in the study. You are also free to withdraw from this study at any time. If after data collection you choose to quit, you can request that the information provided by you be destroyed

under supervision- and thus not used in the research study. You will be notified if new information becomes available about the risks or benefits of this research. Then you can decide if you want to stay in the study.

Purpose of the study:

The purpose of the study is to find out the postnatal newborn care recommendations that are provided to families by nurses and nurse-midwives before a baby goes home. They study will also explore factors in the work environment that may influence the content of the postnatal recommendations and how they are provided.

Type of Research Project/Intervention:

The study is a focused ethnography. As part of the study, you are being asked to participate in an interview. During the interview, you may be asked questions about the care recommendations that you provide, or that are provided in the area where you work or oversee. You will also be asked if there are any sociocultural, environmental, economic, or educational factors that influence the recommendations that are provide or they are provided. The interview will be at conducted at a separate time outside of your work hours.

Why have I been identified to Participate in this study?

You have chosen to participate because providing postnatal newborn care recommendations to families is a part of your job responsibilities. You may also be asked to participate if you have been identified as someone with expertise in the maternal-newborn curriculum at the university where you work, or if your work impacts direct or indirect newborn care at the hospital.

How long will the study last?

The study take place in two phases: a participant observation phase and an interview phase. You are being asked to provide your consent to participate in one 90-minute interview(s). If a follow-up interview or phone call is needed, you are also giving your permission to participate in a second interview or phone call.

What will happen to me during the study?

We are asking you to help us learn more about the newborn care recommendations that nurses and nurse-midwives give to families before they go home. If you accept, you will be asked to participate in a confidential audio-recorded interview.

The questions will be open-ended (meaning you can answer them without limitations and in your own words). They are related to the postnatal care recommendations that you provide to families or teach others to provide. If you do not directly provide newborn care recommendations, you may be asked about the sociocultural, environmental, economic, and educational factors that impact the content of the recommendations that are provided by the nursing staff and how they are provided.

What side effects or risks I can expect from being in the study?

There are few risks to being in the study. One risk is that you could lose your employment if your employer finds out you were not performing your job the way you should (e.g. giving out wrong information to families about newborn care). This risk is rare because the study is confidential and your name or other identifying information will never be associated with the information that you provide.

Are there benefits to taking part in the study?

a) You may not benefit personally from this study however, you may benefit from knowing that you contributed to research to address newborn health
b) The possible benefits to society may include improved newborn survival in your community

Reimbursements:

You will be reimbursed 1,500 Ksh for your time and for your travel expenses if you participate in one interview. If you are asked to participate in a second interview, you will be reimbursed another 1,500 Ksh for your time and travel.

Who do I call if I have questions about the study?

Questions about the study: If you have questions about the study, please contact the principal investigator for the study, Davika Reid. You may call, text, or Whatsapp Davika Reid at [redacted], or email [redacted] You may also contact [redacted] at the Moi University School of Nursing at [redacted] or [redacted]@yahoo.com.
Questions about your rights as a research subject: You may contact Institutional Review Ethics Committee (IREC) 053 33471 Ext.3008. IREC is a group of people that reviews studies for safety and to protect the rights of study subjects.

Will the information I provide be kept private?

All reasonable efforts will be made to keep your protected information (private and confidential. Protected Information is information that is, or has been, collected or

maintained and can be linked back to you. Using or sharing ("disclosure") of such information must follow National privacy guidelines. By signing the consent document for this study, you are giving permission ("authorization") for the uses and disclosures of your personal information. A decision to take part in this research means that you agree to let the research team use and share your Protected Information as described below.

As part of the study, the researcher and her study team may share the results of your interview but any results will never have your name connected with it. These may be study or non-study related. They may also share portions of your interview with the groups named below:
The National Bioethics Committee,
The Institutional Review and Ethics Committee

National privacy regulations may not apply to these groups; however, they have their own policies and guidelines to assure that all reasonable efforts will be made to keep your personal information private and confidential.

The audio-recordings from the interviews will be deleted immediately upon receipt of the written transcript of the interview. The interview transcripts and other data recorded on paper will be kept for a minimum of 7 years in a locked file-cabinet or other secure location at all times. After 7 years it will be permanently destroyed.

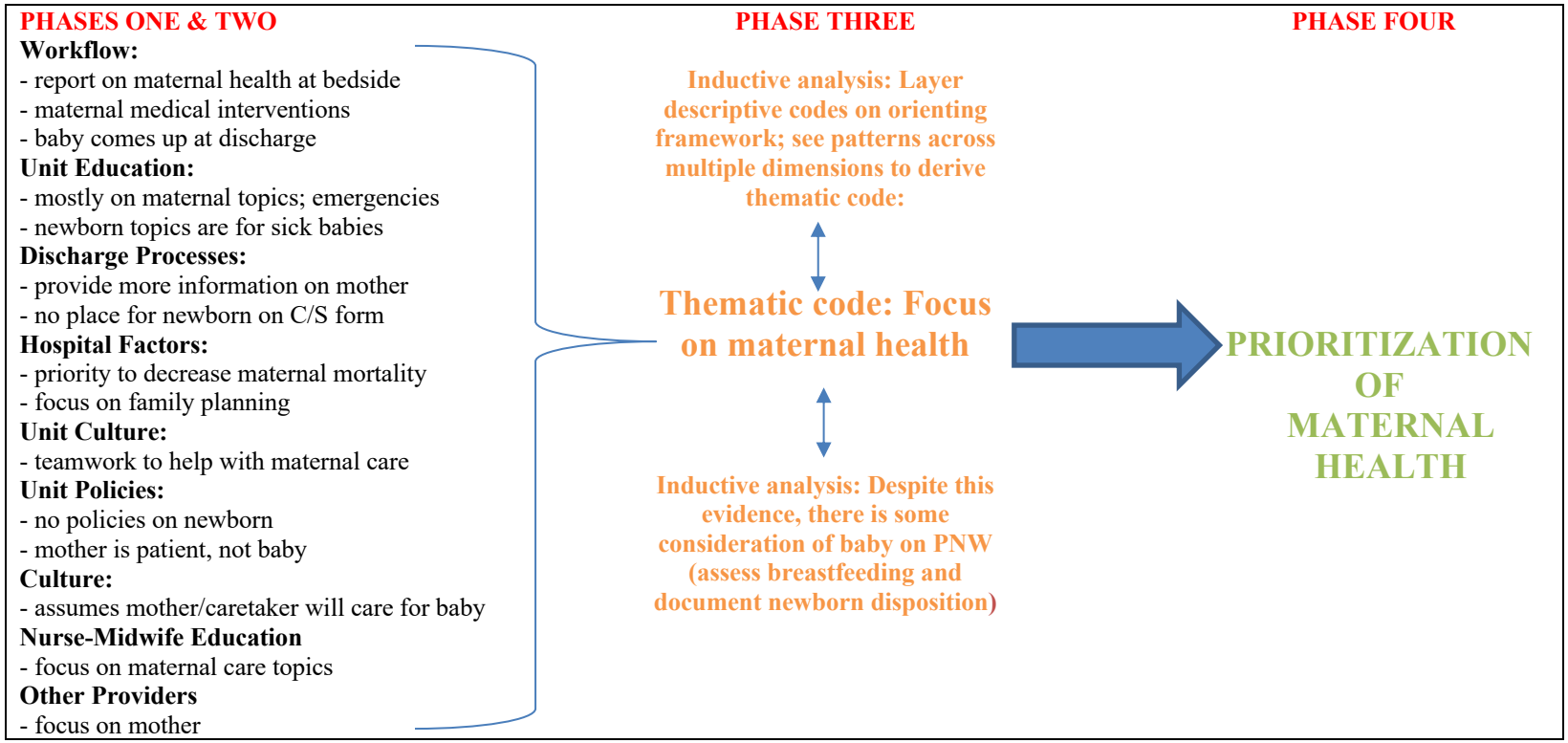
Your employment will not be affected if you decide not to take part. You will receive a copy of this form.

Part II: Consent of Subject:

I have read or have had read to me the description of the research study. The investigator or his/her representative has explained the study to me and has answered all of the questions I have at this time. I have been told of the potential risks, discomforts and side effects as well as the possible benefits (if any) of the study. I freely volunteer to take part in this study. **Please answer the following statement orally: I voluntarily consent to participate in this study.**

_____	_____	_____
Name of person Obtaining Consent	Signature of person Obtaining Consent	Date
_____	_____	_____
Printed name of Investigator	Signature of Investigator	Date

APPENDIX 13. VISUALIZATION OF DATA ANALYSIS TO DETERMINE THEME, 'PRIORITIZATION OF MATERNAL HEALTH.'



Legend:
Red - Phase of data analysis; Black - Descriptive code label and possible influential factor; Orange: Analytic process and thematic code with refinement of influential factor; Green: Final Theme

APPENDIX 14. NURSE-MIDWIFE SUGGESTIONS FOR IMPROVING NEWBORN CARE RECOMMENDATIONS AND NEWBORN HEALTH.

- Address congestion
- Advise mothers not to give herbs to baby
- Assess what mom is going to do at home
- Bring back locums (nurse-midwives who work 'as needed'
- Have a checklist for the mother
- Have a checklist for newborn teaching
- Counsel mother if breastmilk is not enough
- Formulate C-Section discharge summary to be like the SVD discharge summary
- Documentation of the recommendations provided
- Empower mothers
- Give hexicord in labor ward
- Improve outlying facilities
- Have a discharge policy
- Have a personal initiative to learn
- Conduct home visits
- Hospital should allow time to teach primigravidas
- Improve postnatal care in the community
- Individualized healthy talk for sick moms
- Moms should ask questions about care of the baby
- More education
- Take newborn vital signs once a day
- Pediatrician should round of newborns

- Develop a policy for kangaroo mothers who need additional monitoring
- Prepare mothers in antenatal care
- Provide private rooms for counseling
- Designate someone who is only in charge of newborn assessments
- Designate someone to do discharge paperwork
- Designate someone to run errands
- Staffing improvements
- Start discharge teaching on admission; mother more eager to learn then
- Teach against herbs; start in the community
- Training on advocacy
- Translate MCH book into Kiswahili

APPENDIX 15. PERMISSION FROM PUBLISHER TO REPRINT THE SUNRISE MODEL ENABLER

McGraw-Hill Education Material

Author: McFarland and Wehbe-Alamah
Title: Leininger's Transcultural Nursing: Concepts, Theories, Research & Practice
ISBN: 9780071841139
Edition: 4
Description of material: Figures 4.1 from page 63, 4.2 from page 64, 4.3 from page 66 and 4.5 from page 72 (Four Figures Only)

Fee: "Waived"

Purpose of Reproduction

School: The University of Texas at Austin
Purpose: For use in a Dissertation entitled, "Nurse and Nurse-Midwife Provided Recommendations for Postnatal Care of the Newborn in Eldoret, Kenya"
Number of Copies/Number of Users: 3
Semester: Fall 2018-Spring 2019
Format: Print and Electronic (To be used in an access restricted website/platform only)
Distribution: One-time educational use in above-referenced course only for one academic year.

Permission for the use described above is granted under the following terms and conditions:

APPENDIX 16. PERMISSION FROM AUTHORS TO REPRINT THE SUNRISE MODEL ENABLER

Wehbe-Alamah, Hiba Tue, Aug 7, 12:48 PM (2 days ago)
to me, Marilyn

Greetings David,
You have my permission to use the newest version of the Sunrise Enabler. I'm sure you have Dr McFarland's support as well but she can confirm via email as well. Please use following language underneath figure in your manuscript/dissertation.

Leininger's Sunrise Enabler to Discover Culture Care. Used with permission. McFarland, M. R., & Wehbe-Alamah, H. B. (2018). Source: McFarland, M. & Wehbe-Alamah, H. (2018). Leininger's Transcultural Nursing Concepts, Theories, Research, & Practice. (4th edition). New York, NY: McGraw-Hill Education. ISBN: 978-0-07-184113-9

Good luck and take care!

Hiba Wehbe-Alamah, PhD, RN, FNP-BC, CTN-A
Professor
School of Nursing
University of Michigan-Flint, Michigan

McFarland, Marilyn Aug 7, 2018, 3:17 PM (2 days ago)
to Hiba, me

I agree. mm

Marilyn McFarland, PhD, RN, FNP-BC, CTN-A
Professor, School of Nursing
The University of Michigan-Flint

References

Acharya, D., & Paudel, R. (2015). Assessment of critical knowledge on maternal and newborn care services among primary level nurse-midwives in Kapilvastu District of Nepal. *Kathmandu University Medical Journal*, *13*(4), 351-356.

Age of Majority Act, C.F.R. (1974). Retrieved from http://www.kenyalaw.org/lex/actview.xql?actid=CAP.%2033

American Academy of Pediatrics. (n.d.). Helping babies survive: Our programs. Retrieved July 24, 2018, from https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/helping-babies-survive/Pages/Our-Programs.aspx

American Academy of Pediatrics. (2010). Helping babies breathe. Retrieved July 24, 2018, from https://internationalresources.aap.org/Resource/Home

American Academy of Pediatrics. (2014). Essential care for every baby. Retrieved July 24, 2018, from https://internationalresources.aap.org/Resource/Home

American Academy of Pediatrics. (2015). Essential care for small babies. Retrieved July 24, 2018, from https://internationalresources.aap.org/Resource/Home

American Academy of Pediatrics, & American College of Obstetricians and Gynecologists. (2007). Appendix: Recommended registered nurse/patient ratios for perinatal care services. In *Guidelines for Perinatal Care* (6th ed.). https://perinatalweb.org/assets/cms/uploads/files/Appendix%20FINAL.pdf

American College of Nurse Midwives. (n.d.). Home based life saving skills (HBLSS). Retrieved July 24, 2018, from http://www.midwife.org/Home-Based-Life-Saving-Skills-HBLSS

American College of Nurse Midwives. (2010a). Home based life saving skills: Book 3: Baby information. Retrieved July 24, 2018, from http://www.midwife.org/ACNM-Publications

American College of Nurse Midwives. (2011). *Taking care of a baby at home after birth: What families need to do*. Retrieved from http://www.midwife.org/ACNM-Publications

Amolo, L., Irimu, G., & Njai, D. (2017). Knowledge of postnatal mothers on essential newborn care practices at the Kenyatta National Hospital: A cross sectional study. *PanAfrican Medical Journal*, *28*(97). https://doi.org/10.11604/pamj.2017.28.97.13785

Arcury, T. A., & Quandt, S. A. (1999). Participant recruitment for qualitative research: A site-based approach to community research in complex societies. *Human Organization*, *58*(2), 128-133. https://doi.org/10.17730/humo.58.2.t5g838w7u1761868

Arusei, R. J., Ettyang, G. A., & Esamai, F. (2011). Feeding patterns and growth of term infants in Eldoret, Kenya. *Food and Nutrition Bulletin*, *32*(4), 307-314.

Ayuo, P. (n.d.). Welcome to the college of health sciences. Retrieved August 8, 2018, from Moi University College of Health Sciences website: https://chs.mu.ac.ke/index.php/principal-s-office#introduction

Bankrate. (2018, August 9). Currency converter. Retrieved August 9, 2018, from https://www.bankrate.com/calculators/investing/currencycalc.aspx

Ba Saleem, H. B., Ba'amer, A., Al-Sakkaf, K., Bin Briek, K., & Saeed, A. (2017). Maternal and neonatal health care knowledge among Yemeni community midwives: A community based cross-sectional study. *Research Journal of Obstetrics and Gynecology*, *10*(2), 22-31. https://doi.org/10.3923/rjog.2017.22.31

Bee, M., Shiroor, A., & Hill, Z. (2018). Neonatal care practices in sub-Saharan Africa: A systematic review of quantitative and qualitative data. *Journal of Health, Population and Nutrition*, *37*(9), 1-12. https://doi.org/10.1186/s41043-018-0141-5

Bentley, M. E., Pelto, G. H., Straus, W. L., Schumann, D. A., Adegbola, C., de la Pena, E., . . . Huffman, S. L. (1988). Rapid ethnographic assessment: Applications in a diarrhea management program. *Social Science & Medicine*, *21*(1), 107-116. https://doi.org/10.1016/0277-9536(88)90168-2

Bhutta, Z. A., Lassi, Z. A., Blanc, A., & Donnay, F. (2010). Linkages among reproductive health, maternal health, and perinatal outcomes. *Seminars in Perinatology*, *34*(6), 434-445. https://doi.org/10.3109/14767058.2013.784737

Beyond Zero. (n.d.). Vision and mission. Retrieved April 21, 2019, from https://www.beyondzero.or.ke/about-us/our-vision-and-mission/

Chebor, A., Simiyu, K., Tarus, T., Mangeni, J., & Obel, M. (2014). Nurses perception of their work environment at a referral hospital in Western Kenya. *IOSR Journal of Nursing and Health Science*, *3*(6), 6 pages.

Chelagat, D. (n.d.). School of nursing. Retrieved August 8, 2018, from Moi University College of Health Sciences website: https://chs.mu.ac.ke/index.php/nursing

Cherop, C. E., Keverenge-Ettyang, A. G., & Mbagaya, G. M. (2009). Barriers to exclusive breastfeeding among infants aged 0-6 months in Eldoret Municipality, Kenya. *East African Journal of Public Health*, *6*(1), 69-72. https://doi.org/10.4314/eajph.v6i1.45752

Clinical Officers Act, C. F. R. (2017). Retrieved from http://www.kenyalaw.org/lex/actview.xql?actid=No.%2020%20of%202017

Cruz, E. V., & Higginbottom, G. (2013). The use of focused ethnography in nursing research. *Nurse Researcher*, *20*(4), 36-43.

Cruz, R. F., & Tantia, J. F. (2017). Reading and understanding qualitative research. *American Journal of Dance Therapy*, *39*, 79-92. https://doi.org/10.1007/s10465-016-9219-z

de Chesnay, M. (2015). Ethnographic methods. In M. De Chesnay (Ed.), *Nursing research using ethnography* (pp. 37-51). New York, NY: Springer Publishing Company.

Denzin, N. (1978). *The research act: A theoretical introduction to sociological methods*. New York, NY: McGraw Hill.

Dhingra, U., Gittelsohn, J., Suleiman, A. M., Suleiman, S. M., Dutta, A., Ali, S. M., . . . Sazawal, S. (2014). Delivery, immediate newborn and cord care practices in Pemba, Tanzania: A qualitative study of community, hospital staff and community level care providers for knowledge, attitudes, belief systems and practices. *BMC Pregnancy and Childbirth*, *14*(1), 173. https://doi.org/10.1186/1471-2393-14-173

Directorate of Public Service Management Kenya. (2014, May). *Revised scheme of service for nursing personnel*. Retrieved from http://www.health.go.ke/wp-content/uploads/2015/09/SCHEME%20OF%20SERVICE%20FOR%20NURSING%20PERSONNEL.PDF

Duysburgh, E., Kerstens, B., Kouanda, S., Kabore, C. P., Yugbare, D. B., Gichangi, P., . . . Temmerman, M. (2015). Opportunities to improve postpartum care for mothers and infants: Design of context-specific packages of postpartum interventions in rural districts in four sub-Saharan African countries. *BMC Pregnancy and Childbirth*, *15*(1), 131-142. https://doi.org/10.1186/s12884-015-0562-8

Dynes, M., Buffington, S. T., Carpenter, M., Handley, A., Kelley, M., Tadesse, L., . . . Sibley, L. (2013). Strengthening maternal and newborn health in rural Ethiopia: Early results from frontline health worker community maternal and newborn health training. *Midwifery*, *29*(3), 251-259. https://doi.org/10.1016/j.midw.2012.01.006

East, L. A., Arudo, J., Loefler, M., & Evans, C. M. (2014). Exploring the potential for advanced nursing practice role development in Kenya: A qualitative study. *BMC Nursing*, *13*(3), 11 pages. https://doi.org/10.1186/s12912-014-0033-y

Edmond, K. M., Zandoh, C., Quigley, M. A., Amenga-Etego, S., Owusu-Agyei, S., & Kirkwood, B. R. (2006). Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics*, *117*(3), e381-e386. https://doi.org/10.1542/peds.2005-1496

Eldoret, Kenya. (n.d.). In Encyclopedia Britannica (Ed.), *Britannica*. Retrieved April 7, 2018, from https://www.britannica.com/place/Eldoret

Emanuel, E. J., Wendler, D., Killen, J., & Grady, C. (2004). What makes clinical research in developing countries ethical? The benchmarks of ethical research. *The Journal of Infectious Diseases*, *189*(5), 930-937.

Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing ethnographic fieldnotes* (2nd ed.). Chicago, IL: The University of Chicago Press.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, *5*(1), 80-92. https://doi.org/10.1177/160940690600500107

Flenady, V., Boyle, F., Koopmans, L., Wilson, T., Stones, W., & Cacciatore, J. (2014). Meeting the needs of parents after a stillbirth or neonatal death. *BJOG*, *12*(Supple4), 137-140. https://doi.org/10.1111/1471-0528.13009

Gephart, S. M. (2013). The art of effective handoffs: What is the evidence? *Advances in Neonatal Care*, *12*(1), 37-39. https://doi.org/10.1097/ANC.0b013e318242df86

Germain, C. P. (2001). Ethnography the method. In P. L. Munhall (Author), *Nursing research: A qualitative perspective* (3rd ed., pp. 277-307). Sudbury, MA: Jones & Bartlett.

Githiora, C. (2016). Sheng: The expanding domains of an urban youth vernacular. *Journal of African Cultural Studies*, (2), 105-120. https://doi.org/10.1080/13696815.2015.1117962

Gitobu, C. M., Gichangi, P. B., & Mwanda, W. O. (2018). The effect of Kenya's free maternal health care policy on the utilization of health facility delivery services and maternal and neonatal mortality in public health facilities. *BMC Pregnancy and Childbirth*, *18*(77), 11 pages. https://doi.org/10.1186/s12884-018-1708-2

Gobezayehu, A. G., Mohammed, H., Dynes, M. M., Desta, B. F., Barry, D., Aklilu, Y., . . . Sibley, L. (2014). Knowledge and skills retention among frontline health workers: Community maternal and newborn health training in rural Ethiopia. *Journal of Midwifery & Women's Health*, *59*, S21-S31. https://doi.org/10.1111/jmwh.12146

Griffin, J. B., McClure, E. M., Kamath-Rayne, B. D., Hepler, B. M., Rouse, D. J., Jobe, A. H., & Goldenberg, R. L. (2017). Interventions to reduce neonatal mortality: A mathematical model to evaluate impact of interventions in sub-Saharan Africa. *Acta Paediatrica*, *106*(8), 1286-1295. https://doi.org/10.1111/apa.13853

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18*(1), 59-82. https://doi.org/10.1177/1525822X05279903

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied Thematic Analysis*. Los Angeles, CA: Sage.

Harkness, S., Super, C. M., Mavridis, C. J., Barry, O., & Zeitlin, M. (2013). Culture and early childhood development: Implications for policy and programs. In P. R. Britto, P. L. Engle, & C. M. Super (Eds.), *Handbook of early childhood development research and its impact on global policy* (pp. 142-160).

Hauck, Y., Hall, W., & Jones, C. (2007). Prevalence, self-efficacy and perceptions of conflicting advice and self-management: Effects of a breastfeeding journal. *Journal of Advanced Nursing*, *57*(3), 306-317. https://doi.org/10.1111/j.1365-2648.2006.04136.x

Health Department: Republic of South Africa. (2012). *Mother, child health and nutrition booklet* [Pamphlet]. Retrieved from http://www.health.gov.za/index.php/component/phocadownload/category/332

Higginbottom, G. M., Pillay, J. J., & Boadu, N. Y. (2013). Guidance on performing focused ethnographies with an emphasis on healthcare research. *The Qualitative Report*, *18*(9), 1-16. Retrieved from http://nsuworks.nova.edu/tqr/vol18/iss9/1

Hillman, N. H., Kallapur, S. G., & Jobe, A. H. (2012). Physiology of transition from intrauterine to extrauterine life. *Clinics in Perinatology, 39*(4), 769-783. https://doi.org/10.1016/j.clp.2012.09.009

Hubbert, A. O. (2018). The sunrise enabler's application in conflict resolution for nurse administrators and managers. In M. R. McFarland & H. B. Wehbe-Alamah (Authors), *Leininger's transcultural nursing: Concepts, theories, research, & practice* (4th ed., pp. 285-297). New York, NY: McGraw Hill.

Institutional Research and Ethics Committee. (n.d.). Home. Retrieved August 8, 2018, from https://irec.or.ke/

Juma, P. A., Edwards, N., & Spitzer, D. (2014). Kenyan nurses involvement in national policy development processes. *Nursing Research and Practice*, *Article ID 236573*, 10 pages. https://doi.org/10.1155/2014/236573

Kayemba, C. N., Sengendo, H. N., Ssekitooleko, J., Kerber, K., Kallander, K., Waiswa, P., . . . Marsh, D. R. (2012). Introduction of newborn care within integrated community case management in Uganda. *The American Journal of Tropical Medicine and Hygiene*, *87*(Supple5), 46-53. https://doi.org/10.4269/ajtmh.2012.12-0133

Keats, E. C., Mancharia, W., Singh, N. S., Akseer, N., Ravishankar, N., Ngugi, A. K., . . . Bhutta, Z. A. (2018). Accelerating Kenya's progress to 2030: Understanding the determinants of under-five mortality from 1990 to 2015. *BMJ Global Health*, *3*(3), e000655. https://doi.org/10.1136/bmjgh-2017-000655

Keats, E. C., Ngugi, A., Macharia, W., Akseer, N., Khaemba, E. N., Bhatti, Z., . . . Bhutta, Z. A. (2017). Progress and priorities for reproductive, maternal, newborn, and child health in Kenya: A countdown to 2015 country case study. *Lancet Global Health*, *5*(8), e782-e795. https://doi.org/10.1016/S2214-109X(17)30246-2

Kenner, C., Sugrue, N., Mubichi, F., Boycova, M., & Davidge, R. (2009). Global infant mortality/morbidity: A clinical issue, a global organizational approach. *Critical Care Nursing Clinics of North America*, *21*(1), 1-9.

Kenya Ministry of Health. (2012). *Kenya nursing workforce report: The status of nursing in Kenya, 2012*. Retrieved from http://www.health.go.ke/wp-content/uploads/2015/09/Kenya%20Nursing%20Workforce%20Report.pdf

Kenya National Bureau of Statistics. (2015). *Kenya demographic health survey*. Retrieved from https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf

Kerber, K. J., de Graft-Johnson, J. E., Bhutta, Z. A., Okong, P., Starrs, A., & Lawn, J. E. (2007). Continuum of care for maternal, newborn, and child health: From slogan to service delivery. *The Lancet*, *370*, 1358-1369. https://doi.org/10.1016/S0140-6736(07)61578-5

Kiabaru, E. G., & Otara, A. M. (2016). Knowledge of neonatal danger signs among mothers attending well baby clinic in Nakuru Central District, Kenya: Cross sectional descriptive study. *BMC Research Notes*, *9*(481), 8 pages. https://doi.org/10.1186/s13104-016-2272-3

Kirigia, J. M., Muthuri, R. D., Nabyonga-Orem, J., & Kirigia, D. G. (2015). Counting the cost of child mortality in the World Health Organization African region. *BMC Public Health*, *15*(1103). https://doi.org/10.1186/s12889-015-2465-z

Knowledge for Health Project. (n.d.). Where services are delivered. Retrieved August 5, 2018, from https://www.k4health.org/toolkits/kenya-health/where-services-are-delivered

Krueger, R. A. (1998). *Focus Group Kit: Vol. 3. Developing Questions for Focus Groups*. Thousand Oaks, CA: Sage.

Krumer-Nevo, M., & Sidi, M. (2012). Writing against othering. *Qualitative Health Research*, *22*(10), 299-309. https://doi.org/10.1177/1077800411433546

Lang'at, E., & Mwanri, L. (2015). Healthcare service providers' and facility administrators' perspectives of the free maternal healthcare services policy in Malindi District, Kenya: A qualitative study. *Reproductive Health*, *12*(59). https://doi.org/10.1186/s12978-015-0048-1

Leininger, M. (2002). Essential transcultural nursing care. In M. Leininger & M. R. McFarland (Authors), *Transcultural nursing: Concepts, theories, research & practice* (3rd ed., pp. 45-69). New York, NY: McGraw Hill.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.

Maps of the World. (2012, June 1). Political map of Kenya. Retrieved May 5, 2018, from https://www.mapsofworld.com/kenya/kenya-political-map.html

Matsuyama, A., Karama, M., Tanaka, J., & Kaneko, S. (2013). Perceptions of caregivers about health and nutritional problems and feeding practices of infants: A qualitative study on exclusive breast-feeding in Kwale, Kenya. *BMC Public Health*, *13*(525), 13 pages. https://doi.org/10.1186/1471-2458-13-525

McFarland, M. R. (2018). The theory of culture care diversity and universality. In M. R. McFarland & H. B. Wehbe-Alamah (Authors), *Leininger's transcultural nursing: Concepts, theories, research, and practice* (4th ed., pp. 39-56). New York, NY: McGraw Hill.

McTavish, S., Moore, S., Harper, S., & Lynch, J. (2010). National female literacy, individual socio-economic status, and maternal health care use in sub-Saharan Africa. *Social Science & Medicine*, *71*(11), 1958-1963. https://doi.org/10.1016/j.socscimed.2010.09.007

Milimo, B. (n.d.). Department of midwifery and gender. Retrieved August 8, 2018, from https://chs.mu.ac.ke/index.php/department-of-midwifery-and-gender

Ministry of Health. (2012). *Kenya nursing workforce report: The status of nursing in Kenya*. Retrieved from http://www.health.go.ke/wp-content/uploads/2015/09/Kenya%20Nursing%20Workforce%20Report.pdf

Ministry of Health. (2016, January). *Kenya reproductive, maternal, newborn, child and adolescent health (RMNCAH) investment framework* (Government of Kenya, Author). Retrieved from http://globalfinancingfacility.org/sites/gff_new/files/documents/Kenya%20RMNCAH%20Investment%20Framework_March%202016.pdf

Ministry of Public Health and Sanitation, & Ministry of Medical Services. (2010). *Mother and child health booklet* [Pamphlet]. Retrieved from https://www.k4health.org/toolkits/kenya-health/mother-and-child-health-booklet

Mkhwanazi, N. (2016). Medical anthropology in Africa: The trouble with a single story. *Medical Anthropology: Cross-Cultural Studies in Health and Illness*, *35*(2), 193-202. https://doi.org/10.1080/01459740.2015.1100612

Moi University. (n.d.). Historical background. Retrieved April 7, 2018, from https://www.mu.ac.ke/index.php/abount-mu/historical-background

Moi University College of Health Sciences. (n.d.). Master of science in maternal and neonatal health. Retrieved August 8, 2018, from https://chs.mu.ac.ke/index.php/master-of-science-in-maternal-and-neonatal-health

Montagu, D., Yamey, G., Visconti, A., Harding, A., & Yoong, J. (2011). Where do poor women in developing countries give birth? A multi-country analysis of

demographic and health survey data. *PLoS ONE*, *6*(2), e17155. https://doi.org/10.1371/journal.pone.0017155

Morse, J. M., & Coulehan, J. (2015). Maintaining confidentiality in qualitative publications. *Qualitative Health Research*, *25*(2), 151-152. https://doi.org/10.1177/1049732314563489

Mrisho, M., Schellenberg, J. A., Mushi, A. K., Orbrist, B., Mshinda, H., Tanner, M., & Schellenberg, D. (2008). Understanding home-based neonatal care practice in rural southern Tanzania. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, *102*(7), 669-678. https://doi.org/10.1016/j.trstmh.2008.04.029

Mullan, F., & Frehywot, S. (2007). Non-physician clinicians in 47 sub-Saharan African countries. *The Lancet*, *370*(9605), 2158-2163. https://doi.org/10.1016/S0140-6736(07)60785-5

Muriuki, A., Obare, F., Ayieko, B., Matanda, D., Sisimwo, K., & Mdawida, B. (2017). Health care providers' perspectives regarding the use of chlorhexidine gel for cord care in neonates in rural Kenya: Implications for scale-up. *BMC Health Services Research*, *17*(305), 10 pages. https://doi.org/10.1186/s12913-017-2262-8

Murphy, G. A., Omondi, G. B., Gathara, D., Abuya, N., Mwachiro, J., Kuria, R., . . . English, M. (2018). Expectations for nursing care in newborn units in Kenya: Moving from implicit to explicit standards. *BMJ Global Health*, *3*(2), e000645-8 pages. https://doi.org/10.1136/bmjgh-2017-000645

Naanyu, V., Baliddawa, J., Peca, E., Karfakis, J., Nyagoha, N., & Koech, B. (2013). An examination of postpartum family planning in Western Kenya: "I want to use

contraception but I have not been told how to do so." *African Journal of Reproductive Health*, *17*(3), 44-53.

Nabea, W. (2009). Language policy in Kenya: Negotiation with hegemony. *The Journal of Pan African Studies*, *3*(1), 121-139.

Nalwadda, C. K., Waiswa, P., Guwatudde, D., Kerber, K., Peterson, S., & Kiguli, J. (2015). 'As soon as the umbilical cord gets off, the child ceases to be called a newborn': Sociocultural beliefs and newborn referral in rural Uganda. *Global Health Action*, *8*(24386), 1-10. https://doi.org/10.3402/gha.v8.24386

Nelson, M. M. (2016). NICU culture of care for infants with neonatal abstinence syndrome: A focused ethnography. *Neonatal Network*, *35*(5), 287-296. http://dx.doi.org/10.1891/0730-0832.35.5.287

Njuguna, J. (2015). Impact of health workers' strike in August 2014 on health services in Mombasa County Referral Hospital, Kenya. *Journal of Healthcare for the Poor and Underserved*, *26*(4), 1200-1206. https://doi.org/10.1353/hpu.2015.0106

Nurses Act, C.F.R. (2011). Retrieved from http://www.kenyalaw.org/lex/actview.xql?actid=CAP.%20257

Nursing Council of Kenya. (n.d.). Approved nursing programmes. Retrieved August 2, 2018, from http://nckenya.com/edu/programmes/

Nursing Council of Kenya. (n.d.[a]). Registration and Licensing. Retrieved April 14, 2019, from https://nckenya.com/services/registration-and-licensing/

Nzinga, J., McGivern, G., & English, M. (2018). Examining clinical leadership in Kenyan public hospitals through the distributed leadership lens. *Health Policy and Planning*, *33*(s2), 27-34. https://doi.org/10.1093/heapol/czx167

Odura-Mensah, E., Kwamie, A., Antwi, E., Bamfo, S. A., Bainson, H. M., Marfo, B., . . . Agyepong, I. A. (2013). Care decision making of frontline providers of maternal and newborn health services in the Greater Accra Region of Ghana. *PloS One*, *8*(2), e55610. https://doi.org/10.1371/journal.pone.0055610

Office of Research Support and Compliance. (n.d.). What is human subjects research. Retrieved August 8, 2018, from https://research.utexas.edu/ors/human-subjects/what-is-human-subjects-research/

Ojwang, B. O., Ogutu, E. A., & Matu, P. M. (2013). Nurses' impoliteness as an impediment to patients' rights in selected Kenyan hospitals. *Health and Human Rights Journal*, *12*(2), no pagination.

Pace, R., Pluye, P., Bartlett, G., Macauley, A. C., Salsberg, J., Jagosh, J., & Seller, R. (2012). Testing the reliability and efficiency of the pilot Mixed Methods Appraisal Tool (MMAT) for systematic mixed studies review. *International Journal of Nursing Studies*, *49*(1), 47-53. https://doi.org/10.1016/j.ijnurstu.2011.07.002

Pampers. (n.d.). *Best for baby: Our guide to caring for your newborn* [Pamphlet]. Pampers Africa.

Partnership for Maternal, Newborn, and Child Health. (2006). *Opportunities for Africa's newborns: Postnatal care*. Retrieved from https://www.who.int/pmnch/media/publications/oanfullreport.pdf

Partnership for Maternal, Newborn, and Child Health. (2011). *Essential interventions, commodities and guidelines for reproductive, maternal, newborn and child health*. Retrieved from http://www.who.int/pmnch/knowledge/publications/201112_essential_interventions/en/

Patton, M. Q. (2008). Orientational perspective. In L. M. Given (Ed.), *The SAGE encyclopedia of qualitative research methods* (Vol. 2, pp. 586-587).

Peltzer, K., Phaswana-Mafuya, N., & Treger, L. (2009). Use of traditional and complementary health practices in prenatal, delivery and postnatal care in the context of HIV transmission from mother to child (PMTCT) in the Eastern Cape, South Africa. *African Journal of Traditional, Complementary, and Alternative Medicines*, *6*(2), 155-162.

Penfold, S., Willey, B. A., & Schellenberg, J. (2013). Newborn care behaviours and neonatal survival: Evidence from sub-Saharan Africa. *Tropical Medicine & International Health*, *18*(11), 1294-1316. https://doi.org/10.1111/tmi.12193

Pluye, P., Gagnon, M. P., Griffiths, F., & Johnson-Lafleur, J. (2009). A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in mixed studies reviews.

International Journal of Nursing Studies, *46*(4), 529-546. https://doi.org/10.1016/j.ijnurstu.2009.01.009

Polit, D. F., & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed.). Philadelphia, PA: Wolters Kluwer.

Pyone, T., Smith, H., & van den Broek, N. (2017). Implementation of the free maternity services policy and its implications for health system governance in Kenya. *BMJ Global Health*, *2*, e000249-11 pages. http://dx.doi.org/10.1136/bmjgh-2016-000249

QSR International. (n.d.). NVivo 12 for Mac. Retrieved April 13, 2019, from http://www.qsrinternational.com/nvivo/nvivo-products/nvivo-for-mac

Reeve, M., Onyo, P., Nyagero, J., Morgan, A., Nduba, J., & Kermode, M. (2016). Knowledge, attitudes and practices of traditional birth attendants in pastoralist communities of Laikipia and Samburu counties, Kenya: A cross-sectional survey. *PanAfrican Medical Journal*, *25*(Supple2). https://doi.org/10.11604/pamj.supp.2016.25.2.9983

Riley Mother Baby Hospital of Kenya. (n.d.[a]). History. Retrieved April 10, 2019, from http://motherbaby.ryanantcliff.com/history.html

Riley Mother Baby Hospital of Kenya. (n.d.[b]). Our hospital. Retrieved April 10, 2019, from http://motherbaby.ryanantcliff.com/about.html

Rodgers, B. L., & Cowles, K. V. (1993). The qualitative research audit trail: A complex collection of documentation. *Research in Nursing & Health*, *16*, 219-226.

Roper, J. M., & Shapira, J. (2000). *Ethnography in nursing research*. Thousand Oaks, CA: Sage.

Rotich, E., & Wolvaardt, L. (2017). A descriptive study of the health information needs of Kenyan women in the first 6 weeks postpartum. *BMC Pregnancy and Childbirth*, *17*(1), 385-393. https://doi.org/10.1186/s12884-017-1576-1

Sacks, E., & Langlois, E. V. (2016). Postnatal care: Increasing coverage, equity, and quality. *The Lancet Global Health*, *4*(7), e442-e443. https://doi.org/10.1016/S2214-109X(16)30092-4

Sacks, E., Moss, W. J., Winch, P. J., Thuma, P., van Dijk, J. H., & Mullany, L. C. (2015). Skin, thermal and umbilical cord care practices for neonates in southern, rural Zambia: A qualitative study. *BMC Pregnancy & Childbirth*, *15*(149), 1-11. https://doi.org/10.1186/s12884-015-0584-2

Sandelowski, M. (2001). Real qualitative researchers do not count: The use of numbers in qualitative research. *Research in Nursing & Health*, *24*(3), 230-240. https://doi.org/10.1002/nur.1025

Sang, H. (2015). Development discourse in Kenyan vernacular radio: A case study of Kass FM. *Research on Humanities and Social Sciences, 5*(6), 63-72.

Sankar, M. J., Chandrasekaran, A., Ravindranath, A., Agarwal, R., & Paul, V. K. (2016). Umbilical cord cleansing with chlorhexidine in neonates: A systematic review. *Journal of Perinatology*, *36*, S12-S20. https://doi.org/10.1038/jp.2016.28

Save the Children. (2004). *Saving newborn lives: Care of the newborn*. Retrieved from https://resourcecentre.savethechildren.net/library/care-newborn-saving-newborn-lives-reference-manual

Seboni, N. M., Magowe, M. K., Suh, M. B., Djeko, K. N., & Moumouni, H. (2013). Shaping the role of sub-Saharan African nurses and midwives: Stakeholder's perceptions of the nurses' and midwives' tasks and roles. *Health SA Gesondheid*, *18*(1), 11 pages. https://doi.org/10.4102/hsag.v18i1.688

Sibanda, J. Q., Saungweme, I., Nleya, C., Mutyambizi, M. P., & Rutgers, R. (2001). Post natal care in Bubi district deserves more attention. *Central African Journal of Medicine*, *47*(4), 103-108.

Sicuri, E., Bardají, A., Sigauque, B., Maixenchs, M., Nhacolo, A., Nhalungo, D., . . . Menéndez, C. (2011). Costs associated with low birth weight in a rural area of southern Mozambique. *PloS One*, *6*(12), e28744. https://doi.org/10.1371/journal.pone.0028744

Spradley, J. P. (1980). *Participant observation*. New York, NY: Holt, Rinehart & Winston.

Sudhinaraset, M., Ingram, M., Lofthouse, K. K., & Montagu, D. (2013). What is the role of informal healthcare providers in developing countries? A systematic review. *PLOS One*, *8*(2), e54978. https://doi.org/10.1373/journal.pone.0054978

Super, C. M., & Harkness, S. (1986). The developmental niche: A conceptualization at the interface of child and culture. *International Journal of Behavioral Development, 9*(4), 545-569.

Talbert, A. W., Ngari, M., Tsofa, B., Mramba, L., Mumbo, E., Berkley, J. A., & Mwangome, M. (2016). "When you give birth you will not be without your mother" A mixed methods study of advice on breastfeeding for first-time mothers in rural coastal Kenya. *International Breastfeeding Journal*, *11*(10), 9 pages. https://doi.org/10.1186/s13006-016-0069-6

Tama, E., Molyneux, S., Waweru, E., Tsofa, B., Chuma, J., & Barasa, E. (2017). Examining the implementation of the free maternity services policy in Kenya: A mixed methods process evaluation. *International Journal of Health Policy Management*, *25*(7), 603-613. https://doi.org/10.15171/ijhpm.2017.135.

Tierney, W. M., Nyandiko, W. N., Siika, A. M., Wools-Kaloustian, K., Sidle, J. E., Kiplagat, J., . . . Inui, T. S. (2013). “These are good problems to have…”: Establishing a collaborative research partnership in East Africa. *Journal of General Internal Medicine*, *28*(s3), 625-638. https://doi.org/10.1007/s11606-013-2459-4

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349-357. https://doi.org/10.1093/intqhc/mzm042

Trotter, R. T., Needle, R. H., Goosby, E., Bates, C., & Singer, M. (2001). A methodological model for rapid assessment, response, and evaluation: The RARE program in public health. *Field Methods*, *13*(2), 137-159. https://doi.org/10.1177/1525822X0101300202

Tsofa, B., Goodman, C., Gilson, L., & Molyneux, S. (2017). Devolution and its effects on health workforce and commodities management – early implementation experiences in Kilifi County, Kenya. *International Journal for Equity in Health*, *16*(1), 169-182. https://doi.org/10.1186/s12939-017-0663-2

Uasin Gishu County. (n.d.[a]). Agriculture & fisheries. Retrieved August 8, 2018, from https://www.uasingishu.go.ke/agriculture-fisheries/

Uasin Gishu County. (n.d.[b]). History. Retrieved April 8, 2018, from https://www.uasingishu.go.ke/history/

United Nations. (2015). *The millennium development goals report 2015*. Retrieved from http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf

United Nations Inter-Agency Group for Child Mortality Estimation. (2018). *Levels & trends in child mortality report 2018*. Retrieved from http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2018/en/

United Nations International Children's Emergency Fund. (n.d.). *Maternal and newborn health disparities Kenya*. Retrieved from https://data.unicef.org/resources/maternal-newborn-health-disparities-country-profiles/

United Nations International Children's Emergency Fund. (2018). *Every child alive: The urgent need to end child deaths*. Retrieved from https://data.unicef.org/wp-content/uploads/2018/02/Every-Child-Alive-report_FINAL-1.pdf

United States Central Intelligence Agency. (n.d.). Kenya: Population - languages. Retrieved August 9, 2018, from https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html

United States Central Intelligence Agency. (1974). Ethnic groups. Retrieved May 11, 2018, from http://legacy.lib.utexas.edu/maps/africa/kenya_ethnic_1974.jpg

United States Central Intelligence Agency. (2013). Kenya: Economy - unemployment rate. Retrieved August 9, 2018, from https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html

United States Central Intelligence Agency. (2016). Kenya: Economy - population below poverty line. Retrieved August 9, 2018, from https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html

Vedanthan, R., Kamano, J. H., Naanyu, V., Delong, A. K., Were., M. C., Finkelstein, E. A., . . . Fuster, V. (2014). Optimizing linkage and retention to hypertension care in rural Kenya (LARK hypertension study): Study protocol for a randomized control trial. *Trials*, *15*(143), 10 pages. https://doi.org/10.1186/1745-6215-15-143

Victoria, C. G., Requejo, J. H., Barros, A. J., Berman, P., Bhutta, Z., Chopra, M., . . . Bryce, J. (2016). Countdown to 2015: A decade of tracking progress for maternal, newborn, and child survival. *Lancet*, *14*(387), 2049-2059. https://doi.org/10.1016/S0140-6736(15)00519-X

Vittner, D., Casavant, S., & McGrath, J. M. (2015). A meta-ethnography: Skin-to-skin holding from the caregiver's perspective. *Advances in Neonatal Care*, *15*(3), 191-200. https://doi.org/10.1097/ANC.0000000000000169.

Wamalwa, E. W. (2015). Implementation challenges of free maternity services policy in Kenya: The health workers' perspective. *The Pan African Medical Journal*, *22*, 5 pages. https://doi.org/10.11604/pamj.2015.22.375.6708

Warren, C., Daly, P., Toure, L., & Mongi, P. (2006). Postnatal care. In Partnership for Maternal, Newborn & Child Health (Author), *Opportunities for Africa's newborns* (pp. 79-90). Retrieved from http://www.who.int/pmnch/media/publications/oanfullreport.pdf

Warren, C., Mwangi, A., Oweya, E., Kamunya, R., & Koskei, N. (2010). Safeguarding maternal and newborn health: Improving the quality of postnatal care in Kenya. *International Journal for Quality in Health Care*, *22*(1), 24-30. https://doi.org/10.1093/intqhc/mzp050

Webb-Girard, A., Cherobon, A., Mbugua, S., Kamau-Mbuthia, E., Amin, A., & Sellen, D. W. (2012). Food insecurity is associated with attitudes towards exclusive breastfeeding among women in urban Kenya. *Maternal and Child Nutrition*, *8*(2), 199-214. https://doi.org/10.1111/j.1740-8709.2010.00272.x

Wehbe-Alamah, H. B. (2018). Essential transcultural nursing care concepts, principles, guidelines, and policy statements for culturally congruent and competent health care practice, education, and research. In M. R. McFarland & H. B. Wehbe-Alamah (Authors), *Leininger's transcultural nursing: Concepts, theories, research & practice* (4th ed., pp. 13-37). New York, NY: McGraw Hill.

Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, *52*(5), 546-553. https://doi.org/10.1111/j.1365-2648.2005.03621.x

World Atlas. (n.d.). Kenya. Retrieved August 9, 2018, from https://www.worldatlas.com/webimage/countrys/africa/ke.htm

World Bank. (2015). Maternal mortality ratio. Retrieved from https://data.worldbank.org/indicator/sh.sta.mmrt

World Health Organization. (1994). *Essential newborn care*. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/63076/WHO_FRH_MSM_96.13.pdf?sequence=1

World Health Organization. (1998). *Postpartum care of the mother and newborn: A practical guide*. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/66439/WHO_RHT_MSM_98.3.pdf?sequence=1

World Health Organization. (2006). *Neonatal and perinatal mortality: Country regional and global estimates*. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/43444/9241563206_eng.pdf?sequence=1

World Health Organization. (2007a, January). *Community health workers: What do we know about them?* Retrieved from http://www.who.int/hrh/documents/community_health_workers.pdf

World Health Organization. (2007b). *WHO Guidelines for implementing strategic directions for strengthening nursing and midwifery services in the Africa region 2007-2017.* Retrieved from https://www.afro.who.int/sites/default/files/2017-06/Strategic%20Directions%20for%20Strengthening%20Nursing%20%26%20Midwifery%20Services%20in%20the%20African%20Region%202007%E2%80%932017.pdf

World Health Organization. (2009). *Home visits for the newborn child: A strategy to improve survival*. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/70002/WHO_FCH_CAH_09.02_eng.pdf?sequence=1

World Health Organization. (2010). *WHO technical consultation on postpartum and postnatal care*. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK310591/pdf/Bookshelf_NBK310591.pdf

World Health Organization. (2010a). *Essential newborn care course*. Retrieved from http://www.who.int/maternal_child_adolescent/documents/newborncare_course/en/

World Health Organization. (2013, October). *WHO recommendations on postnatal care of the mother and newborn*. Retrieved from http://www.who.int/maternal_child_adolescent/documents/postnatal-care-recommendations/en/

World Health Organization. (2014). *Every newborn: An action plan to end preventable deaths*. Retrieved from http://www.healthynewbornnetwork.org/hnn-content/uploads/Every_Newborn_Action_Plan-ENGLISH_updated_July2014.pdf

World Health Organization. (2016). *WHO recommendations on antenatal care for a positive pregnancy experience*. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK409108/pdf/Bookshelf_NBK409108.pdf

World Health Organization. (2018). *WHO recommendations: Intrapartum care for a positive childbirth experience*. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/260178/9789241550215-eng.pdf

World Health Organization. (2018a, September 28). Newborns: Reducing mortality. Retrieved February 19, 2019, from https://www.who.int/news-room/fact-sheets/detail/newborns-reducing-mortality

World Health Organization. (2019, February 5). World health statistics data visualizations dashboard, Africa region. Retrieved February 19, 2019, from http://apps.who.int/gho/data/view.sdg.3-2-data-reg?lang=en

World Health Organization. (2019a, February 25). *Chlorhexidine 7,1% digluconate (CHX) aqueous solution or gel (10ml): Reports of serious eye injury due to errors in administration* [Press release]. Retrieved from https://www.healthynewbornnetwork.org/hnn-content/uploads/alert133_chlorhexidine.pdf

Ziyane, I. S., & Thwala, M. (2010). Low uptake of postnatal care services in Swaziland. *African Journal of Midwifery and Women's Health*, *4*(1), 15-21. https://doi.org/10.12968/ajmw.2010.4.1.46308